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## A FURTHER STUDY OF THE EXCESS OXYGEN METHOD FOR THE DETERMINATION OF THE BIOCHEMICAL OXYGEN DEMAND OF SEWAGE AND INDUSTRIAL WASTES.<sup>1</sup>

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The biochemical oxygen demand of water polluted with sewage or industrial wastes may be defined as the milligrams of oxygen per liter of water required for the stabilization of its organic matter by aerobic bacterial action. There are three methods available for the determination of this quantity, viz, the "excess nitrate" (Lederer) method, the relative stability method, and the excess oxygen method. Reasons for the adoption of the excess oxygen method in studies conducted in connection with the investigation of methods for purifying industrial wastes and sewage were given in a previous article.<sup>1</sup>

The "excess nitrate" method is inapplicable to the determination of the very small oxygen demand values which obtain in the case of highly polluted streams or fairly good effluents. If dissolved oxygen is present it is not always possible to prophesy whether this method should be used or the sample incubated straight. Standard Methods (A. P. H. A.) (1917) recommends that in such cases the "excess nitrate" and excess oxygen methods be employed alongside. Dilutions are dispensed with in the "excess nitrate" method—a strong point in its favor, which, however, is largely offset by the determinations of the residual nitrites and nitrates. The method is open to the further objections that it is coupled with constants which do not necessarily hold for industrial wastes and that it can not be used to measure organic matter in a state of oxidation only slightly lower than that of nitrates, e. g., free ammonia and nitrites and possibly other forms of oxidizable matter that will eventually abstract definite amounts of oxygen from a stream.

Stability numbers can be used in deriving quantitative results if the initial dissolved oxygen is determined as in the case of the excess oxygen method. Since the oxygen supply is allowed to go

<sup>1</sup> The Determination of the Biochemical Oxygen Demand of Industrial Wastes and Sewage, by Emery J. Theriault, Sanitary Bacteriologist, and Harry B. Hommon, Sanitary Engineer, United States Public Health Service. This paper was published as an appendix to Public Health Bulletin No. 97, and will appear with the present report in reprint form.

to depletion, all titrations after incubation are dispensed with. This method was not used, however, since it could not be stated at the time that the constant involved in the derivation of the stability numbers also held for industrial wastes. Moreover, as will appear later, results based on short periods of incubation are likely to be misleading when this method is used.

Inasmuch as the "excess nitrate" and the relative stability methods had to be calibrated against the excess oxygen method, an attempt was made to develop an easily workable and efficient excess oxygen method that would take the place of the methods referred to above. There appeared to be difficulties and uncertainties in the practical application of the excess oxygen method that militated against its use in spite of its closer simulation of natural conditions. A technique was developed which simplifies the determination considerably, gives reliable results, and compares very favorably in the amount of laboratory work required with any method so far proposed. Based on a series of over 400 tests, it was shown<sup>2</sup> that the reliability of the biochemical oxygen demand values derived by incubating samples of waste or sewage with excess oxygen was well within 5 per cent, or practically within the error of titration. In this article it is intended to present, first, some deductions based on the reliability of the excess oxygen method as developed in this laboratory, and, second, to show what relation 24-hour and 5-day oxygen demand values bear to each other and to the 10-day oxygen demand.

In the article referred to above it was shown quite conclusively that a strict proportionality exists between the amount of oxygen used up during an incubation test and the amount of waste taken for the test, and it was also shown that this proportionality is quite independent of the dilution used. This conclusion has an important application in the study of stream pollution, since wastes discharged into streams are, in general, oxidized in a very highly diluted condition. If it were true that the biochemical oxygen demand of a waste varies with its dilution, being considerably higher in the higher dilutions,<sup>3</sup> it would be logical to assume that a waste diluted 100,000 times, on being added to a stream, would absorb many times the amount of oxygen indicated by a laboratory test on a 1 per cent concentration. The fact that the amount of oxygen required for the stabilization of a waste is independent of the dilution furnishes a scientific basis for the assumption that the results of laboratory studies can be used in gauging the effect of a given waste on the deoxygenation of a stream.

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<sup>2</sup> See footnote, page 1087.

<sup>3</sup> University of Illinois Bulletin, Water Survey Series No. 13, vol. 14.

Another question of fundamental importance in the study of stream pollution is the rate at which oxygen is taken up from a stream, since, other things being equal, this rate determines the point at which nuisance would occur. Since industrial wastes constitute a very important factor in the pollution of streams, it becomes desirable to determine the rate at which they absorb oxygen when diluted with water containing dissolved oxygen. This rate would have an important bearing in fixing the responsibility for the creation of a nuisance due to the overloading of the oxidizing capacity of a stream. The rate at which sewage is oxidized has already been determined by Phelps,<sup>4</sup> and has been used by him in deriving the relative stability numbers for sewage. These numbers were derived on the valid assumption that bacterial oxidation processes follow the law of a monomolecular reaction. This equation, in the integrated form, and for the particular case of the oxidation of organic matter by bacteria, is

$$\frac{(a-x)}{(a)} = 1 - K^t \quad (1)$$

where  $(a-x)$  is the organic matter used up during  $t$  days,

$(a)$  is the organic matter present at the start,

and  $(K)$  is a constant estimated by Phelps to be 0.794 in the case of sewage incubated at 20° C.

Since the organic matter is to be measured in terms of the oxygen required to stabilize it, the term  $\frac{(a-x)}{(a)}$  in equation (1) may be replaced by the equivalent ratio

$$\frac{\text{Dissolved oxygen used up during the time } t}{\text{Total biochemical oxygen demand}} = S \quad (2)$$

The stability of sewage is defined as the above ratio. When a relative stability of 100 is adopted as a standard, equation (1) becomes

$$S = 100(1 - 0.794^t) \quad (3)$$

In the derivation of this equation it is assumed that the oxidizing bacteria and the organic matter to be oxidized are in equilibrium from the very start of the incubation. Furthermore, no account is taken of the purely chemical part of the oxidation, i. e., the initial oxygen demand. This purely chemical part of the oxygen requirement is generally small in comparison with the 5 or 10 day biochemical oxygen demand, and it is satisfied during the first few hours of a test. In some cases, however, its value may be large in comparison

<sup>4</sup> Phelps, Earle B., U. S. Geological Survey Water-Supply Paper No. 229.

with the 1-day oxygen demand. The assumption that oxidizing bacteria and organic matter are in equilibrium is approximately true where dissolved oxygen is present in the sample under examination.

In the case of wastes which must be diluted before the stability test can be applied, time should obviously be allowed for the development of aerobic bacterial activity. The term  $t$  in equation (3) in such cases should be replaced by the term  $(T-L)$ , where  $T$  is the observed time of incubation and  $L$  is the lag in the establishment of full bacterial activity under the conditions of the test. This lag is an indeterminate factor, and, as will appear later on, may vary from 0 to 18 hours. Other things being equal, the disturbing effect of this delay in the establishment of bacterial equilibrium would be greater for the shorter periods of incubation. These objections are not valid when the stability numbers are used for their original purpose, since the same lag in the establishment of bacterial activity may be expected when wastes are discharged into a stream and samples possessing dissolved oxygen do not have any initial oxygen demand. When the stability numbers are used to determine the ultimate biochemical oxygen demand of a waste requiring dilution it is apparent, however, that any results based on 1- or 2-day periods of incubation may be in serious error.

With the above reservations, the time  $t$  in equation (3) is known and the amount of oxygen available at the start can be readily determined. The amount used up during the time  $t$  can be estimated by one of two methods:

- (a) The Relative Stability Method.—By adding methylene blue to the sample and noting the time required for its decolorization. In this case the amount of oxygen used up is that which was present at the start of the test.
- (b) The Excess Oxygen Method.—The amount of oxygen present in the sample after a definite period of incubation is determined and the amount used up during that time is found by difference.

It will be noted that in the first method the oxygen supply is allowed to become depleted, whereas in the second method depletion, of necessity, must not have been reached. Before comparing the two methods it must, therefore, be established that the rate at which oxygen is used up is the same, whether or not an appreciable amount of oxygen is present. This has been shown to be the case<sup>5</sup>, and a logical basis, therefore, exists for comparing the two methods.

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<sup>5</sup> See footnote, page 1087.



The following table was computed from the equation  $S = 100 (1 - 0.794^t)$ , the manner of computing the stability for a 1-day period being as follows:

$$S = 100 (1 - 0.794^1) = 20.6.$$

The stability numbers given in the table are those corresponding to 1-, 5-, and 10-day periods of incubation. In order to estimate the effect of a lag of from 12 to 18 hours in the establishment of bacterial equilibrium, periods differing from these by 12 or 18 hours are also included.

TABLE 1.—*Relative stability numbers for various periods of time.*

Time in days.....	0.25	0.5	1.0	4.25	4.5	5.0	9.25	9.5	10.0
Stability.....	5.60	10.9	20.6	62.50	64.6	68.5	88.2	88.9	90.1

Given the relative stability numbers and the biochemical oxygen demand values corresponding to two different periods of time, it is possible to connect the relative stability numbers with the excess oxygen method in the following manner:

$$S_1 = \frac{\text{Oxygen demand during } t_1 \text{ days}}{\text{Total oxygen demand}} \quad (4)$$

$$S_2 = \frac{\text{Oxygen demand during } t_2 \text{ days}}{\text{Total oxygen demand}} \quad (5)$$

Dividing equation (4) by equation (5):

$$\frac{S_1}{S_2} = \frac{\text{Oxygen demand during } t_1 \text{ days}}{\text{Oxygen demand during } t_2 \text{ days}} \quad (6)$$

For sewage, therefore, the oxygen demand values over different periods of time are in the same ratio as the corresponding stability numbers. The same relation should hold true for industrial wastes if sewage and industrial wastes are oxidized at the same rate. The ratios of the stability numbers given in Table 1 are recorded in Table II, and the corresponding ratios for a number of the more important industrial wastes are given in Table III. These ratios are the factors to be applied to oxygen demand values for a given period of incubation in order to estimate the oxygen demand for a different period. In Table II under the headings "Five-day to one-day," "Ten-day to one-day," and "Ten-day to five-day," the ratios of stabilities differing from 1-, 5-, and 10-day periods by 12 or 18 hours are also given.

TABLE II.—*Ratios of the stability numbers for sewage for various periods.*

$S_1$	$S_2$	$\frac{S_2}{S_1}$ —Ratio of the stabilities.
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## FIVE-DAY TO ONE-DAY.

20.6	68.5	3.3= Ratio of 5-day to 1-day stability number.
10.9	64.6	5.9= Ratio of 4.5-day to 12-hour stability number.
5.6	62.5	11.2= Ratio of 4.25-day to 6-hour stability number.

## TEN-DAY TO ONE-DAY.

20.6	90.1	4.4= Ratio of 10-day to 1-day stability number.
10.9	88.9	8.2= Ratio of 9.5-day to 12-hour stability number.
5.6	88.2	15.8= Ratio of 9.25-day to 6-hour stability number.

## TEN-DAY TO FIVE-DAY.

68.5	90.1	1.32= Ratio of 10-day to 5-day stability number.
64.6	88.9	1.38= Ratio of 9.5-day to 4.5-day stability number.
62.5	88.2	1.41= Ratio of 9.25-day to 4.25-day stability number.

In Table II it will be noted that if bacteria and organic matter are in equilibrium at the start of a test, the ratio of the 5-day to the 1-day stability numbers is 3.3. If a lag of 12 hours is allowed before equilibrium is established, the ratio becomes 5.9. Similarly, the ratios of 10-day to 1-day stability numbers may vary from 4.4 to 15.8. If 12 hours elapse before bacterial equilibrium is established, the results of a 24-hour incubation test should be correlated with the stability number corresponding to 12 hours and not with the 24-hour stability number. Where 5- and 10-day stability numbers are involved, the variation in the value of the ratios is small, since, in this case, a difference of 12 or 18 hours is quite negligible.

TABLE III.—*Ratios of the biochemical oxygen demand values of various industrial wastes for different periods of time.*

## UNTREATED WASTES.

Industry.	Source of samples.	Number of tests made.	5-day to 1-day.	10-day to 1-day.	10-day to 5-day.
			$R_1 \pm A.D.$	$R_2 \pm A.D.$	$R_2 \pm A.D.$
Breweries.....	Mixed wastes.....	113	3.9 $\pm$ 0.1	4.8 $\pm$ 0.2	1.2 $\pm$ 0.0
Tomato canning.....	do.....	7	5.0 $\pm$ 1.1	6.0 $\pm$ 1.3	1.2 $\pm$ 0.0
Tannery (Cincinnati).....	Spent tan.....	10	6.9 $\pm$ 1.0	9.0 $\pm$ 1.3	1.3 $\pm$ 0.0
Do.....	Beam house.....	18	4.6 $\pm$ 0.5	6.0 $\pm$ 0.7	1.3 $\pm$ 0.0
Do.....	Mixed wastes.....	33	5.8 $\pm$ 0.8	7.4 $\pm$ 1.0	1.3 $\pm$ 0.0
Dairies.....	do.....	13	5.4 $\pm$ 0.8	6.8 $\pm$ 0.9	1.3 $\pm$ 0.0
Strawboard.....	Beater.....	19	9.3 $\pm$ 1.5	13.0 $\pm$ 2.2	1.4 $\pm$ 0.0
Do.....	Machine.....	18	4.5 $\pm$ 0.4	6.6 $\pm$ 0.6	1.4 $\pm$ 0.0
Do.....	Mixed wastes.....	15	6.6 $\pm$ 0.9	9.8 $\pm$ 1.5	1.4 $\pm$ 0.0
Abattoirs.....	do.....	64	4.0 $\pm$ 0.2	5.5 $\pm$ 0.3	1.4 $\pm$ 0.0

TABLE III.—*Ratios of biochemical oxygen demand values of various industrial wastes for different periods of time—Continued.*

## SLIGHTLY TREATED WASTES.

Industry.	Source of samples.	Number of tests made.	5-day to 1-day.	10-day to 1-day.	10-day to 5-day.
			$R_1 \pm A.D.$	$R_2 \pm A.D.$	$R_3 \pm A.D.$
Tomato canning.....	Imhoff tank.....	7	$5.8 \pm 0.7$	$6.5 \pm 0.8$	$1.1 \pm 0.0$
Tannery (Cincinnati).....	Settled waste.....	40	$4.0 \pm 0.2$	$5.5 \pm 0.3$	$1.3 \pm 0.0$
Tannery (Luray, Va.).....	do.....	15	$2.7 \pm 0.3$	$3.1 \pm 0.3$	$1.5 \pm 0.0$

## SEMPURIFIED WASTES.

Tomato canning.....	Cinder filters.....	14	$3.6 \pm 0.3$	$4.5 \pm 0.6$	$1.3 \pm 0.0$
Tannery (Cincinnati).....	do.....	40	$4.3 \pm 0.2$	$6.2 \pm 0.4$	$1.5 \pm 0.0$
Do.....	Coke filter.....	45	$3.9 \pm 0.2$	$5.9 \pm 0.3$	$1.5 \pm 0.0$
Tannery (Luray, Va.).....	Cinder filter.....	14	$3.5 \pm 0.6$	$4.6 \pm 0.8$	$1.2 \pm 0.0$

## PURIFIED WASTES.

Tomato canning.....	Sand filters.....	17	$5.0 \pm 0.4$	$7.8 \pm 0.6$	$1.6 \pm 0.1$
Tannery (Cincinnati).....	Filter, No. 5.....	19	$3.8 \pm 0.3$	$5.9 \pm 0.6$	$1.7 \pm 0.1$
Do.....	Filter, No. 6.....	27	$3.6 \pm 0.2$	$6.3 \pm 0.5$	$1.7 \pm 0.1$
Tannery (Luray, Va.).....	Sand filters.....	28	$3.1 \pm 0.3$	$4.3 \pm 0.4$	$1.4 \pm 0.0$
Filtration.....	Tap water.....	15	$3.2 \pm 0.4$	$5.4 \pm 0.5$	$1.5 \pm 0.1$

## CREAMERY WASTES.

Creamery.....	Mixed wastes.....	19	$4.1 \pm 0.6$	$5.8 \pm 0.9$	$1.4 \pm 0.0$
Do.....	Settled waste.....	19	$7.0 \pm 1.6$	$9.3 \pm 2.3$	$1.5 \pm 0.0$
Do.....	Sand filter, No. 1.....	12	$3.7 \pm 0.3$	$7.5 \pm 0.8$	$2.1 \pm 0.2$
Do.....	Sand filter, No. 2.....	24	$4.3 \pm 0.4$	$10.0 \pm 1.0$	$2.0 \pm 0.1$

The ratios for the biochemical oxygen demand values of a variety of the more important industrial wastes are given in Table III. The wastes are grouped according to the degree of their oxidation with the exception of the values given for creamery waste. The values for this type of waste were obtained at another laboratory using a different technique and are not strictly comparable with the rest of the values in the table. The manner of deriving the average ratios given in this table was as follows:

$A_1, A_2, A_3 \dots A_n =$  1-day oxygen demand results.

$B_1, B_2, B_3 \dots B_n =$  5-day oxygen demand results.

$C_1, C_2, C_3 \dots C_n =$  10-day oxygen demand results.

$n =$  Number of tests covering 3 periods.

The ratios between the values at 3 different periods were computed for each set of results obtained and the mean value of the ratios,  $R$ , was computed from the following expression: -

$$R_1 = \frac{\frac{B_1}{A_1} + \frac{B_2}{A_2} + \frac{B_3}{A_3} + \dots + \frac{B_n}{A_n}}{n} = \text{Mean value of 5-day to 1-day ratio.}$$

Given the mean value of a ratio, the deviation of an individual ratio from this value is, in the case of 5- and 1-day ratios:

$$d_1 = R_1 - \frac{B}{A}$$

The average deviation, *a. d.*, is the sum of the individual deviations divided by the number of tests made:

$$a. d. = \frac{d_1 + d_2 + d_3 + \dots + d_n}{n}$$

and the deviation of the mean, *A. D.*, is given by the expression:

$$A. D. = \frac{a. d.}{n^{1/2}}$$

In the last column of Table III, under the heading "Ten-day to five-day," are given the ratios found experimentally to hold true for the wastes in question. In this column  $R_3$  is the mean of the individual ratios and *A. D.* is a measure of the precision of  $R_3$ . In most cases the deviation of  $R_3$  was less than 0.05 and the term *A. D.* was recorded simply as 0.0. With the exception of the values grouped under "Purified wastes" the ratios in this column are in very close agreement and do not depart appreciably from a value of 1.3 or 1.4. In fact if all values given in this column are averaged, an average ratio of  $1.38 \pm$  is obtained. The average ratio for the "Untreated," "Slightly treated," and "Semipurified" wastes considered separately is  $1.33 \pm 0.0$ . The "Purified wastes" considered separately give an average ratio of  $1.48 \pm 0.1$ . The value of 1.33 is practically identical with that given in Table II derived from Phelps's constant of 0.794 for sewage.

It will be noted that the *A. D.* of the values given under "Purified wastes" is greater than that of the less highly oxidized wastes. The depletions from which the values for the "Purified wastes" were obtained were very much smaller than for the other wastes, and the opportunity for experimental error was accordingly much greater. For all practical purposes the deviations are negligible: thus it would make no difference whether a factor of 1.3 or 1.5 were used to compute the 10-day oxygen demand of a sample with a 5-day demand of only 10 p. p. m. Tap water is included in this list, the value derived being  $1.5 \pm 0.1$ . The fact that this value so closely approximates that found for raw wastes is a strong indication that the values given for some of the sand filters are too high. In view of the variety of wastes considered, ranging in character from spent tan liquors to dairy waste, and in strength from tap water, with a total oxygen demand of less than 1.0 p. p. m., to abattoir wastes, with oxygen demand values in many

cases of over 10,000 p. p. m., the agreement in this part of the table is very good.

Under the headings "Five-day to one-day" and "Ten-day to one-day" are given the ratios of 5- and 10-day results to 1-day results. At first sight these do not appear to be very concordant. The good agreement between the 5- and 10-day results indicates that the 1-day results are the disturbing factor. The establishment of aerobic conditions in the case of the "Untreated wastes," and the "Slightly treated wastes" involves a change in the bacterial flora, and time must be allowed for aerobes or facultative aerobes to supplant the existing types. Some of the wastes are presumably bactericidal in the undiluted condition. Others have been boiled and are quite sterile. The initial oxygen demand of some of these wastes tends to counterbalance this lag in the establishment of aerobic bacterial activity. This effect is particularly noticeable in the case of the tannery waste samples from Luray, Va. These samples were shipped to the Cincinnati laboratory and analyzed 24 hours or more after being collected. Their initial oxygen demand was considerable. For many wastes, however, e. g., the strawboard wastes and the "Purified wastes," the initial oxygen demand was zero, and the variations in such cases can be ascribed wholly to a lag in the establishment of bacterial equilibrium.

The ratios given under the heading "Five-day to one-day" range from a low value of  $2.7 \pm 0.3$  for settled waste from the Luray tannery, to  $9.3 \pm 1.5$  for beater waste from strawboard mills. Referring to the values given in Table II under the same heading it will be seen that this variation is no greater than might be expected if a lag of from zero to 18 hours is allowed for the establishment of aerobic bacterial activity.

The 5-day to 1-day ratios for the "Semipurified wastes" and the "Purified wastes" range from 3.1 to 5.0, indicating that for these wastes less than 12 hours are required for the establishment of bacterial equilibrium. Tap water, within the limits of experimental error, appears to require very little time for the establishment of uniform bacterial activity. The extreme values for the ratios given under the heading "Ten-day to one-day" in Table III are  $3.1 \pm 0.3$  and  $13.0 \pm 2.2$ , whereas in Table II under the same heading the extreme values are 4.4 and 15.8.

The combined effect of the initial oxygen demand and of the delay in the establishment of bacterial equilibrium is to make the results of a 1-day period of incubation rather unreliable for the purpose of estimating the oxygen demand for longer periods of incubation. It is not intended that the values given for the conversion of 1-day results to longer periods of incubation should be used for that purpose. These values have been included in the



table to show the extreme variability of 1-day oxygen demand results as compared with the relatively constant relation obtaining after longer periods of incubation. The reliability of the 5- to 10-day ratio is such, however, that if the 5-day values were to be multiplied by a factor of 1.33 the result would be practically equivalent to the 10-day values actually found by experiment. This indicates that incubation tests may be limited to 5-day periods and suggests the possibility of still further reducing the period of incubation. Since bacterial equilibrium appears to have been established within 18 hours in all cases considered, it is not improbable that the oxygen demand during the second day would bear a very definite relation to the 5- or 10-day oxygen demand. The oxygen demand during the second day could be determined by deducting from the 2-day oxygen demand the value found after one day of incubation. In an assumed case the 10- or 20-day oxygen demand could be computed as follows:

$$\text{2-day oxygen demand} = 200$$

$$\text{1-day oxygen demand} = 50$$

$$\text{Demand during the second day} = 150$$

$$n\text{th day oxygen demand} = [50 + (150) (\text{factor})]$$

Experimental data are lacking for the verification of this assumption. Theoretically, the factor to be substituted in the above expression would be  $87.5 \div 20.6$ , or 4.25, to obtain the 10-day oxygen demand value. If this assumption could be shown to hold true without too great a sacrifice in the accuracy of the results, the period of incubation in the excess oxygen method could be reduced to 2 days.

#### Summary and Conclusions.

1. Biochemical oxygen demand methods involving the addition of nitrates or the use of stability number relations are open to objections.
2. The excess oxygen method yields very accurate and consistent results with as little labor as, or less labor than, is required by other methods.
3. Laboratory studies of the oxygen demand of sewage and industrial wastes can be applied with confidence to the study of the deoxidizing effect of these wastes on streams, since the amount of oxygen used up in laboratory tests is independent of the dilution used.
4. Phelps's constant for sewage can be used in the study of stream pollution, inasmuch as the rate of sewage oxidation by bacteria is sensibly the same as that for the more important industrial wastes. It follows that industrial wastes and sewage can be compared

directly when their strength is expressed in terms of their biochemical oxygen demand.

5. The close agreement between 5- and 10-day oxygen demand values indicates that the application of a factor of 1.33 to 5-day oxygen demand values is sufficiently accurate for most purposes and that the incubation period need not be extended beyond 5 days.

6. A method whereby the period of incubation might be further reduced to 2 days is suggested.

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### A NATIONAL INSTITUTE OF INDUSTRIAL PSYCHOLOGY AND PHYSIOLOGY.<sup>1</sup>

In the current number of *The Times Engineering Supplement* (London) a detailed account is given of the proposed National Institute of Psychology and Physiology applied to Industry and Commerce. Among the names of its supporters we note those of Sir Walter M. Fletcher, Sir R. A. Gregory, Mr. W. B. Hardy, Dr. Leonard Hill, Sir Alfred Keogh, Dr. C. S. Myers, Sir E. Cooper Perry, Prof. C. S. Sherrington, and Prof. E. H. Starling. The intention of the founders is to establish a national institute which will investigate the human problems of industry and commerce, occupying a position similar to that held in the domain of physical science by the National Physical Laboratory. It will provide training courses and lectures for those interested in the practical applications of psychology and physiology to the problems of industry and commerce. It will undertake investigations at factories and offices in relation to any special problems—e. g., the conditions necessary to give optimum output, the methods of reducing mental and muscular fatigue, the application of tests by which workers can be selected for the occupations for which they are mentally or physically best fitted, and the conditions which tend to the health, comfort, and welfare generally of the worker. The institute will not be established for profit, and a close relation will be maintained with the Industrial Fatigue Research Board, but overlapping of effort is to be avoided. A Scientific Committee is being formed, consisting of the principal psychologists and physiologists throughout the country interested in such problems, in order to coordinate research work and, so far as possible, to support it by means of grants. We heartily wish success to so impartial and scientific a body of workers in their efforts to deal with important problems, in which a previous medical training is obviously of enormous value.

**EDITORIAL NOTE.**—The investigation of problems in industrial physiology, such as are outlined above for the proposed National

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<sup>1</sup> From *The Lancet*, April 13, 1920, pp. 779-780.

Institute of Psychology and Physiology in England, have been carried on for three years by the United States Public Health Service, during the past year under the general supervision of Senior Physiologist (R) Frederic S. Lee.

The following are some of the questions with which these investigations have been concerned: Comparison of maintenance of output in 8-hour and 10-hour plants, and day and night shifts; artificial limitation of output; the influences of speed of production and fatigue in accident causation; the effect of rest periods in 8-hour and 10-hour plants; fatigue studies; the measurement of fatigue; the importance of rhythm in industry in relieving fatigue; muscular tonus in relation to fatigue; chemical phenomena of fatigue; vascular skin reaction tests; muscle tests; standard strengths; etc.

All these studies have a direct bearing on the health and comfort of the worker and, consequently, upon industrial economics. This latter bearing is becoming duly recognized by many factories, which have established what may be called "departments of industrial physiology." The first step of this kind undertaken by an industrial establishment in this country was the direct outcome of the work of the Public Health Service.

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#### **PROVISION OF ASSISTANCE FOR WIDOWED, DESERTED, AND UNMARRIED MOTHERS AND THEIR CHILDREN IN ENGLAND.<sup>1</sup>**

The wonderful results achieved in child conservation in England have been due in large part to a system of Government subsidization. In a recent report by the medical officer of health of St. Pancras, certain powers of local councils in making provision of assistance for widowed, deserted, and unmarried mothers and their children, under regulations made by the Local Government Board (now the Ministry of Health), are set forth. The Ministry of Health will pay grants to local authorities and others, as a rule at the rate of one-half of expenditure incurred with the Ministry's approval, for the following purposes:

"Expenses of crèches and day nurseries and of other arrangements for attending to the health of children under five years of age whose mothers go out to work;

The provision of homes and other arrangements for attending to the health of children of widowed, deserted, and unmarried mothers, under five years of age; and

Experimental work for the health of expectant and nursing mothers and of children under five years of age, carried out by local authorities or voluntary agencies with the approval of the board."

In a circular accompanying the regulations is the following instructive statement:

"The health of infants and young children who lack the support of a father often needs special attention, and it is on all grounds desirable

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<sup>1</sup> From a report by T. Shadwick Higgins, medical officer of health, St. Pancras. *The Medical Officer*, London, January, 1920.

that the mother and child should be kept together in such cases, especially during the first year. It is notorious that the death-rate of illegitimate infants, the only infants in this category for whom separate statistics are published, is about twice the death rate of legitimate infants. \* \* \* The board have therefore obtained the treasury assent to the extension of the grant to homes at which mothers and children can be kept together in certain cases, and to such other arrangements as the board may approve for attending to the health of the children under consideration. In some cases it may be desirable to pay a good foster-mother to look after a child whose mother can not afford the whole of its keep, or to assist the mother to stay at home to attend to the child. Any scheme for the purpose should be submitted for the board's approval before expenditure is incurred on it, if a grant is desired."

The powers of the borough council are limited to children under five years of age, although the problem by no means ends with children of this age. The desirability of keeping a mother and child together whenever possible is considered of the highest importance, and "the preservation and exercise of the maternal affection should be aimed at for the future welfare and happiness both of the mother and child." This in the majority of cases may be effected by one or more of the following measures:

(1) The maintenance of the child in a home (such as the guardians' at Leavesden), where the mother and the child must be parted.

(2) Entrusting the child to a foster mother, approved and subject to supervision, the mother living in the same house or elsewhere.

(3) The provision of a day nursery, where the child would be cared for by day while the mother was at work, the child being taken home by the mother every evening or dealt with as indicated under (4).

(4) The provision of a hostel for mothers where they can be sent after the lying-in, the babies being cared for in a day nursery on or near the premises while the mother is at work, and by the mother in the hostel at night and other times.

(5) The making of a money allowance to those mothers who are able to keep their children satisfactorily at home, but whose earnings are insufficient to do so without assistance.

(1) Children's Homes: Wherever public accommodations are available, it should be unnecessary for borough councils themselves to provide an institution. However, when necessary, the extension of the arrangement to other authorities and bodies providing suitable homes, or a direct provision of the homes by the council, should be considered.

(2) Foster-Mothers: The difficulty of finding suitable foster mothers has been largely due to the inability of mothers to offer sufficient

financial inducement to foster mothers. A system is recommended whereby the local council may augment mothers' payments, provided the foster mothers are approved and kept under regular supervision by the authorities, which would probably meet a number of cases where it was not possible or desirable for the mother to live with the child. It was suggested also that in some instances mothers might also lodge with the foster mothers.

(3) Day Nurseries: In accepting the responsibility for fatherless children, additional day-nursery facilities, as a rule, have been found necessary. A successful precedent has been observed in subsidizing existing day nurseries, on condition that they comply with certain specified requirements and receive as far as possible the children referred to them by the local authorities. At the present time they receive a 50 per cent grant from the Ministry of Health upon the deficit on the approved expenditure after the deduction of payment made by the mothers.

With regard to voluntary day nurseries the report recommends a proportional subsidy on their whole work, rather than the making of payments for certain cases referred to them and not for others. On this basis it is recommended that the payment of grants equal one-half of those paid by the General Government. The total approved expenditure therefore would be met one-half by the Government and one-fourth each by the local authorities and the voluntary funds of the institution.

(4) Hostels for Mothers: There is a need for hostels for mothers in connection with the day nurseries, both for unmarried mothers who have just completed their lying-in and have to make their plans for facing the world, and for mothers who, while they have to leave their children when they are at work during the day, are able to join them again in the evening, and yet have no home to go to. A properly managed hostel would doubtless help many such mothers to retrieve their characters by shielding them from the dangers presented by a return to the conditions under which they have fallen.

(5) Payments to Mothers: In regard to payment of direct money grants to mothers who, but for lack of means, could keep their children at home, would, in suitable cases, probably be a more economical way of dealing with the mother than by institutions.

The fathers of motherless children often find very serious difficulty in getting them properly cared for, and any scheme adopted in the case of widowed, deserted, and unmarried mothers, would no doubt be found useful in dealing with such cases.

In the opinion of the writer this work should be regarded as an essential part of maternity and child welfare, and in harmony with the policy of concentrating in the hands of a central local authority on matters which directly affect the public health.



Applications for relief should be considered in regard to each case from the standpoint of the particular form in which assistance should be given, its duration, the payments which the mother should be required to make, and the steps which should be taken to require an adequate payment by the father.

Estimates: During the years 1918, 1917, 1916, 1915, and 1914 the number of illegitimate births that were notified in St. Pancras were 314, 275, 318, 256, and 230, respectively. Probably only a part of these would have applied for assistance. On the assumption that 100 cases came up for consideration in the first year of the scheme, and that 50 of them were dealt with through Leavesden or foster mothers, 22 by day nurseries only, 12 at a hostel, and 16 by subsidization, the cost might be estimated as follows (apart from initial equipment):

	Pounds per annum.
50 children at 18s. a week (the Leavesden figure).....	2,340
Annual cost of hostel for 12 mothers.....	1,000
Gross annual subsidy to the four day nurseries.....	1,265
16 mothers subsidized at 6s. a week.....	250
	<hr/> 4,855

If the women paid half the cost of the first two items, a sum of 1,670 pounds could be deducted, leaving an expenditure of 3,185 pounds. The deduction of a 50 per cent government grant (subject to approval) then leaves a total cost to the rates of about 1,600 pounds for the year.

The report concludes with the statement that a state system of mothers' pensions for all mothers, married or unmarried, who lack the support of a husband, and are in need, would greatly lessen the provision which the local council would be required to make along the lines indicated in the report. In other words, that the system of mothers' pensions is desirable.

#### **DIVISION OF VENEREAL DISEASES, MARCH, 1920.**

The accompanying table shows that during the month of March, 1920, 23,573 cases of venereal diseases were reported to the State boards of health by physicians, clinicians, hospital superintendents, etc., and that there were 9,260 new admissions to the clinics operating under the joint control of the United States Public Health Service and the State boards of health.

There were 26,395 doses of arsphenamine administered during the the month.

Six States have not submitted reports.

*Veneral disease reports for March, 1920. Number of cases reported by the State boards of health, number of admissions to the veneral disease clinics operating under joint control of U. S. Public Health Service and State boards of health, and number of treatments of arsphenamine administered.*

State.	Cases reported.				Admissions to clinics.				Arsphenamine treatments administered.
	Total cases.	Gonorrhea.	Syphilis.	Chancroid.	Total admissions.	Gonorrhea.	Syphilis.	Chancroid.	
Alabama.....	1,331	586	702	43	743	250	475	18	1,451
Arizona.....	26	24	2		6	2	3	1	8
Arkansas.....	484	260	197	27	175	70	95	10	363
California.....	1,081	577	504		359	155	201	3	2,086
Colorado.....	270	164	94	12	63	33	25	5	134
Connecticut <sup>1</sup> .....									
Delaware.....									
Florida.....	290	163	113	14	297	91	163	13	779
Georgia.....	820	448	368	4	343	168	145	30	796
Idaho <sup>1</sup> .....									
Illinois.....	2,917	1,350	1,503	64	433	225	197	11	1,798
Indiana.....	735	431	279	25	646	364	253	29	1,730
Iowa.....	302	211	85	6	104	54	46	4	401
Kansas.....	248	127	117	4	183	76	107	3	647
Kentucky.....	305	156	144	5	139	32	97	1	686
Louisiana.....	504	311	134	59	259	118	116	25	454
Maine <sup>1</sup> .....									
Maryland.....	443	204	207	32	196	116	66	14	290
Massachusetts.....	801	523	278		746	322	423	1	2,574
Michigan.....	1,657	841	799	17	141	60	79	2	174
Minnesota.....	1,020	492	509	19	79	39	40		701
Mississippi.....	329	159	146	24	168	67	89	12	208
Missouri.....	766	459	272	35	585	287	265	33	334
Montana.....	181	140	41		27	6	21		125
Nebraska.....	537	292	223	22	49	23	26		294
New Hampshire.....	54	35	17	2	18	11	7		118
New Jersey.....	584	244	322	18	239	125	110	4	481
New York <sup>1</sup> .....									
New Mexico.....	41	34	6	1	6	5	1		1
North Carolina.....	594	371	192	31	209	97	98	14	505
North Dakota.....	83	62	19	2	8	3	5		22
Ohio.....	982	445	499	38	418	217	184	17	2,012
Oklahoma.....	807	440	316	51	307	159	118	30	1,489
Oregon.....	70	57	12	1					127
Rhode Island <sup>1</sup> .....									
South Carolina.....	1,141	560	495	86	658	309	286	63	1,540
South Dakota.....	127	90	33	4	14	12	2		
Tennessee.....	713	412	276	25	333	153	162	18	736
Texas.....	1,371	681	617	73	706	312	345	49	1,093
Utah.....	194	150	44		54	31	23		116
Vermont.....	40	25	15		10	3	7		47
Virginia.....	447	215	204	28	422	195	200	27	928
Washington.....	368	272	89	7	24	12	12		289
West Virginia.....	484	302	163	19	86	26	59	1	608
Wisconsin.....	354	249	94	11	39	19	20		231
Wyoming.....	72	51	20	1	4	3	1		16
Total.....	23,573	12,613	10,150	810	9,260	4,250	4,572	438	26,395

<sup>1</sup> Report not submitted.

The Public Health Service is unable to supply the demand for bound copies of the Public Health Reports. Librarians and others receiving the Public Health Reports regularly should preserve them, as it will probably not be practicable to furnish bound copies on individual requests in the future.

## DEATHS DURING WEEK ENDED APR. 24, 1920.

[From the "Weekly Health Index," Apr. 27, 1920, issued by the Bureau of the Census, Department of Commerce.]

*Deaths from all causes in certain large cities of the United States during the week ended Apr. 24, 1920, infant mortality (per cent), annual death rates, and comparison with corresponding week of preceding years.*

City.	Population July 1, 1918, estimated.	Week ended Apr. 24, 1920.		Average annual death rate per 1,000. <sup>3</sup>	Per cent of deaths under 1 year.	
		Total deaths.	Death rate. <sup>1</sup>		Week ended Apr. 24, 1920.	Previous year or years. <sup>2</sup>
Albany, N. Y.	<sup>3</sup> 113,344	33	15.2	C 20.4	15.2	C 13.6
Atlanta, Ga.	201,732	54	14.0	C 18.4	9.3	C 4.2
Baltimore, Md.	<sup>4</sup> 669,981	239	18.6	A 20.2	17.2	A 13.8
Birmingham, Ala.	197,670	45	11.9	A 16.4	26.7	A 12.0
Boston, Mass.	785,245	219	14.5	A 17.8	21.9	A 16.5
Buffalo, N. Y.	473,229	150	16.5	C 18.5	21.3	C 13.7
Cambridge, Mass.	111,432	27	12.6	A 13.8	22.2	A 21.5
Chicago, Ill.	2,596,681	711	14.3	A 15.5	20.8	A 17.9
Cincinnati, Ohio	<sup>2</sup> 401,158	119	15.5	C 17.1	10.1	C 9.5
Cleveland, Ohio.	810,306	228	14.7	C 16.9	19.7	C 12.2
Columbus, Ohio.	225,206	77	17.8	C 16.9	15.6	C 13.7
Dayton, Ohio.	<sup>3</sup> 153,830	87	12.5	C 19.2	16.2	C 8.3
Denver, Colo.		81			11.1	
Detroit, Mich.		287			20.9	
Fall River, Mass.	128,392	29	11.8	C 18.7	20.7	C 34.8
Grand Rapids, Mich.	135,450	29	11.2	C 20.8	10.3	C 9.3
Indianapolis, Ind.	290,389	93	16.7	C 25.2	21.5	C 13.6
Jersey City, N. J.	318,770	71	12.1	C 14.2	16.2	C 14.0
Kansas City, Mo.	313,785	92	15.3	C 20.4	14.1	C 10.6
Los Angeles, Calif.	568,495	144	13.2	A 13.9	6.3	A 10.0
Louisville, Ky.	<sup>2</sup> 234,891	77	17.1	C 27.3	16.9	C 11.0
Lowell, Mass.	109,081	31	14.8	A 18.7	19.4	A 21.1
Memphis, Tenn.	<sup>3</sup> 162,351	62	19.9	C 20.2	16.1	C 1.7
Milwaukee, Wis.	<sup>3</sup> 457,147	104	11.9	A 13.3	17.3	A 20.7
Minneapolis, Minn.	<sup>3</sup> 380,498	80	11.0	C 16.2	12.5	C 10.9
Nashville, Tenn.	<sup>3</sup> 118,342	41	18.1	C 32.8	7.3	C 4.0
Newark, N. J.	428,684	108	13.1	C 19.5	15.7	C 11.9
New Haven, Conn.	154,865	53	17.8	C 12.5	17.0	C 18.9
New Orleans, La.	<sup>3</sup> 387,408	113	15.2	A 18.9	11.5	A 13.6
New York, N. Y.	5,215,879	1,479	14.8	C 16.0	16.7	C 14.9
Oakland, Calif.	214,206	43	10.5	A 10.5	4.7	A 10.9
Omaha, Nebr.	180,264	56	16.2	C 11.3	10.7	C 15.4
Philadelphia, Pa.	1,761,371	571	16.9	<sup>5</sup> 16.7	14.5	<sup>5</sup> 13.1
Pittsburgh, Pa.	593,303	189	16.6	C 26.1	19.6	C 15.8
Portland, Oreg.		59			6.8	C 20.0
Providence, R. I.	263,613	64	12.7	C 17.6	12.5	C 10.1
Richmond, Va.	160,719	61	19.8	C 20.4	9.8	C 7.9
Rochester, N. Y.	264,856	68	13.4	C 14.2	26.5	C 8.3
St. Louis, Mo.	<sup>3</sup> 773,000	204	13.8	C 19.3	13.2	C 8.3
St. Paul, Minn.	<sup>2</sup> 234,595	58	12.9	C 12.9	19.0	C 12.5
San Francisco, Calif.	478,530	112	12.2	C 15.7	7.1	C 9.0
Seattle, Wash.		73			15.1	A 13.2
Spokane, Wash.		37			8.1	C 20.0
Syracuse, N. Y.	<sup>2</sup> 171,647	63	19.1	C 26.7	22.2	C 14.1
Toledo, Ohio.	<sup>2</sup> 243,109	66	14.2	A 15.7	19.7	A 18.4
Washington, D. C.	<sup>2</sup> 433,414	139	16.6	A 17.2	12.2	A 8.9

<sup>1</sup> Annual rates per 1,000 estimated population.

<sup>2</sup> "A" indicates data for the corresponding week of the year, 1913 to 1917, inclusive. "C" indicates data for the corresponding week of the year 1917.

<sup>3</sup> 1920 enumeration, subject to revision.

<sup>4</sup> Population estimated as of July 1, 1919.

<sup>5</sup> Data are based on statistics of 1915, 1916, and 1917.

*Summary of information received by telegraph from industrial insurance companies for week ended Apr. 24, 1920.*

Policies in force.....	42,701,023
Number of death claims.....	9,045
Death claims per 1,000 policies in force, annual rate.....	11.0

# PREVALENCE OF DISEASE.

*No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring.*

## UNITED STATES.

### CURRENT STATE SUMMARIES.

#### Telegraphic Reports for Week Ended May 1, 1920.

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers.

ALABAMA.		CONNECTICUT—continued.	
	Cases.		Cases.
Chicken pox.....	15	Mumps.....	55
Diphtheria.....	6	Pneumonia.....	11
Influenza.....	6	Scarlet fever:	
Malaria.....	4	Hartford County—Hartford.....	7
Measles.....	57	New Haven County—	
Scarlet fever.....	11	New Haven.....	10
Smallpox.....	54	Waterbury.....	14
Tuberculosis (pulmonary).....	17	Scattering.....	46
Typhoid fever.....	13	Tuberculosis.....	41
Whooping cough.....	9	Typhoid fever.....	6
		Whooping cough.....	43
CALIFORNIA.		DELAWARE.	
	Cases.		Cases.
Influenza.....	38	Cerebrospinal meningitis:	
Lethargic encephalitis—Oakland.....	1	New Castle.....	1
Smallpox.....	33	Chicken pox.....	3
Typhoid fever.....	7	Diphtheria.....	2
		Influenza.....	1
CONNECTICUT.		Measles.....	71
	Cases.	Mumps.....	6
Cerebrospinal meningitis:		Pneumonia.....	3
Bridgeport.....	2	Scarlet fever.....	6
Waterbury.....	1	Smallpox.....	1
Chicken pox.....	31	Tuberculosis.....	7
Diphtheria:		Typhoid fever.....	1
Hartford County—Hartford.....	9		
New Haven County—			
New Haven.....	8		
Waterbury.....	7		
Scattering.....	48		
German measles.....	2		
Measles:			
Fairfield County—Stamford.....	16		
Hartford County—			
Hartford.....	31		
Southington.....	15		
Middlesex County—Essex.....	7		
New Haven County—New Haven.....	36		
New London County—			
Groton.....	21		
New London.....	62		
Windham County—Danielson.....	8		
Scattering.....	66		

GEORGIA—continued.		IOWA—continued.	
	Cases.		Cases.
Dysentery (amebic).....	1	Measles—Continued.....	
Dysentery (bacillary).....	4	Des Moines.....	8
Hookworm.....	12	Dubuque.....	60
Influenza.....	41	Scattering.....	9
Malaria.....	22	Mumps.....	4
Measles.....	76	Scarlet fever.....	39
Mumps.....	3	Smallpox:	
Pneumonia.....	19	Davenport.....	13
Scarlet fever.....	6	Des Moines.....	7
Septic sore throat.....	3	Dubuque.....	23
Smallpox.....	23	Ottumwa.....	7
Tuberculosis (pulmonary).....	19	Warren County.....	8
Typhoid fever.....	3	Scattering.....	46
Whooping cough.....	37	Whooping cough.....	1
ILLINOIS.		KANSAS.	
Cerebrospinal meningitis:		Diphtheria.....	17
Chicago.....	1	Influenza.....	9
Hinkley.....	1	Scarlet fever.....	58
Diphtheria:		Smallpox.....	162
Chicago.....	130	LOUISIANA.	
Scattering.....	21	Cerebrospinal meningitis.....	3
Influenza.....	21	Diphtheria.....	9
Lethargic encephalitis:		Influenza.....	17
Chicago.....	5	Scarlet fever.....	2
River Forest.....	1	Smallpox.....	44
Pneumonia:		Typhoid fever.....	7
Chicago.....	238	MAINE.	
Scattering.....	16	Chicken pox.....	4
Poliomyelitis:		Diphtheria:	
Chicago.....	1	Atkinson.....	13
Decatur.....	1	Scattering.....	13
Scarlet fever:		Influenza.....	13
Chicago.....	203	Lethargic encephalitis—Biddeford.....	1
Scattering.....	74	Measles.....	15
Smallpox:		Mumps.....	11
East Moline.....	11	Pneumonia.....	8
East St. Louis.....	17	Scarlet fever:	
Flora.....	10	Lisbon.....	25
Galesburg.....	24	Scattering.....	20
Moline.....	8	Septic sore throat.....	3
Taylorville.....	10	Smallpox—Lisbon.....	1
Scattering.....	23	Tuberculosis.....	10
Typhoid fever.....	20	Typhoid fever.....	2
INDIANA.		Whooping cough.....	30
Diphtheria.....	26	MARYLAND. <sup>1</sup>	
Influenza.....	7	Cerebrospinal meningitis.....	1
Measles:		Chicken pox.....	59
Marion County.....	663	Diphtheria.....	43
Scattering.....	666	German measles.....	4
Rabies in animal:		Influenza.....	101
Clark County.....	1	Lethargic encephalitis.....	2
Scarlet fever:		Measles.....	526
Fayette County.....	29	Mumps.....	14
Marion County.....	26	Ophthalmia neonatorum.....	1
Scattering.....	125	Pneumonia (all forms).....	79
Smallpox.....	204	Scarlet fever.....	42
IOWA.		Septic sore throat.....	2
Chicken pox.....	4	Smallpox.....	9
Diphtheria.....	13	Tuberculosis.....	86
Measles:		Typhoid fever.....	2
Burlington.....	16	Whooping cough.....	27
Council Bluffs.....	34		
Davenport.....	26		

<sup>1</sup> Week ended Friday.





## TEXAS—continued.

Malaria:	
Dallas.....	9
Bastrop County.....	10
Measles:	
Dallas.....	12
El Paso.....	16
Scattering.....	5
Mumps—Dallas.....	9
Pellagra.....	4
Pneumonia:	
Dallas.....	11
Scattering.....	7
Scarlet fever:	
Dallas.....	9
Scattering.....	15
Smallpox:	
Weatherford.....	7
Bastrop County.....	40
Fort Worth.....	10
Scattering.....	18
Trachoma—Dallas.....	3
Tuberculosis.....	10
Typhoid fever.....	8
Typhus fever—Hutto.....	1
Whooping cough.....	10
VERMONT.	
Chicken pox.....	24
Diphtheria.....	5
Influenza.....	7
Measles.....	71
Mumps.....	55
Pneumonia.....	8
Scarlet fever.....	16
Whooping cough.....	23
VIRGINIA.	
Smallpox:	
Halifax County, several.	
Norfolk County.....	2
Smyth County.....	2
WASHINGTON.	
Chicken pox.....	65
Diphtheria.....	10
Measles.....	546
Mumps.....	23

## WASHINGTON—continued.

	Cases.
Pneumonia.....	1
Scarlet fever.....	37
Smallpox.....	137
Typhoid fever.....	3
Whooping cough.....	79
WEST VIRGINIA.	
Diphtheria.....	11
Measles:	
Clarksburg.....	18
Fairmont.....	13
Moundsville.....	12
New Martinsville.....	10
Parkersburg.....	22
Salem.....	12
Sistersville.....	10
Wheeling.....	46
Scarlet fever.....	13
Smallpox:	
Bluefield.....	19
Scattering.....	6
Typhoid fever.....	4
WISCONSIN.	
Milwaukee:	
Chicken pox.....	66
Diphtheria.....	8
Measles.....	400
Rubella.....	2
Scarlet fever.....	32
Smallpox.....	13
Tuberculosis.....	8
Whooping cough.....	48
Scattering:	
Cerebrospinal meningitis.....	4
Chicken pox.....	42
Diphtheria.....	37
Influenza.....	24
Lethargic encephalitis:	
Walworth County.....	2
Measles.....	482
Scarlet fever.....	124
Smallpox.....	115
Tuberculosis.....	13
Typhoid fever.....	1
Whooping cough.....	64

## Kentucky Report for Week Ended Apr. 24, 1920.

Cerebrospinal meningitis:	Cases.	Measles—Continued.	Cases.
Carter County.....	2	Muhlenburg County.....	13
Chicken pox.....	7	Scattering.....	34
Conjunctivitis.....	1	Mumps.....	6
Diphtheria.....	13	Pneumonia.....	17
Dysentery.....	1	Scarlet fever:	
Influenza:		Jefferson County.....	13
Lee County.....	13	Kenton County.....	7
Scattering.....	21	Scattering.....	24
Lethargic encephalitis:		Smallpox:	
Jefferson County.....	1	Daviess County.....	21
Malaria.....	3	Knox County.....	9
Measles:		Scattering.....	14
Campbell County.....	18	Tonsillitis.....	3
Carter County.....	13	Trachoma.....	2
Fleming County.....	15	Tuberculosis.....	17
Jefferson County.....	29	Typhoid fever.....	5
Kenton County.....	30	Whooping cough.....	24
McCracken County.....	24		

## SUMMARY OF CASES REPORTED MONTHLY, BY STATES.

Tables showing, by counties, the reported cases of cerebrospinal meningitis, influenza, malaria, pellagra, poliomyelitis, smallpox, and typhoid fever are published under the names of these diseases. (See names of these and other diseases in the table of contents.)

The following monthly State reports include only those which were received during the current week. These reports appear each week as received.

State.	Cerebrospinal meningitis.	Diphtheria.	Influenza.	Malaria.	Measles.	Pellagra.	Poliomyelitis.	Scarlet fever.	Smallpox.	Typhoid fever.
MARCH, 1920.										
Connecticut.....	11	292	880	.....	1,313	.....	2	442	.....	6
Delaware.....	.....	23	94	1	484	.....	.....	16	.....	3
Illinois.....	25	860	65,529	48	4,796	.....	9	2,313	668	68
Iowa.....	2	46	134	.....	.....	.....	.....	230	343	.....
Kansas.....	14	130	6,666	.....	612	.....	1	346	500	8
Mississippi.....	9	68	17,482	4,193	273	293	7	111	635	98
Montana.....	1	39	491	.....	268	.....	1	66	127	4
New York.....	25	2,146	9,966	.....	10,758	.....	8	1,554	47	75
North Dakota.....	.....	57	1,548	.....	64	.....	.....	157	28	18
Oregon.....	1	20	598	.....	106	.....	.....	93	269	4
Pennsylvania.....	18	1,377	.....	.....	10,032	4	3	2,172	24	112
South Carolina.....	4	76	567	23	32	5	.....	8	44	4
Washington.....	3	77	703	.....	1,370	.....	.....	312	790	20

## ACTINOMYCOSIS.

## Illinois and Kansas—March, 1920.

During March, 1920, two cases of actinomycosis were reported in Illinois and one case was reported in Kansas.

## ANTHRAX.

## Massachusetts, New York, and Pennsylvania.

During March, 1920, four cases of anthrax were reported in New York and four in Pennsylvania. During the week ended April 17, 1920, one case and one death were reported at Lawrence, Mass.

## CEREBROSPINAL MENINGITIS.

## State Reports for March, 1920.

Place.	New cases reported.	Place.	New cases reported.
<b>Connecticut:</b>		<b>Illinois:</b>	
Fairfield County—	.....	Adams County—	.....
Bridgeport.....	1	Quincy.....	1
Hartford County—	.....	Cook County—	.....
Hartford.....	1	Chicago.....	12
New Haven County—	.....	Maine Township.....	1
New Haven.....	3	Maywood.....	2
Wallingford.....	1	Harvey.....	1
Waterbury.....	1	Melrose Park.....	1
New London County—	.....	Franklin County—	.....
New London.....	2	Sesser.....	1
Stonington.....	1	Winnebago County—	.....
Windham County—	.....	Rockford.....	1
Killingly.....	1	Woodford County—	.....
Total.....	11	Roanoke Township.....	1
		Roanoke.....	1

## CEREBROSPINAL MENINGITIS—Continued.

## State Reports for March, 1920—Continued.

Place.	New cases reported.	Place.	New cases reported.
Illinois—Continued.		New York:	
St. Clair County—		Albany County—	
East St. Louis.....	1	Albany.....	1
Bond County—		Broome County—	
Mulberry Grove.....	1	Johnson City.....	1
McHenry County—		Eric County—	
Richmond Township.....	1	Buffalo.....	3
Total.....	25	Our Lady of Victory Home.....	1
Iowa:		Nassau County—	
Polk County.....	2	Oyster Bay (town).....	1
Kansas:		New York City.....	14
Cloud County—		Orange County—	
Linn.....	1	Newburgh.....	1
Coneordia (R. F. D.).....	1	Tompkins County—	
Crawford County—		Ithaca.....	1
Girard.....	1	Wayne County—	
Douglas County—		Sodus (town).....	1
Lawrence.....	1	Winchester County—	
McPherson County—		Hastings-on-Hudson.....	1
McPherson.....	1	Total.....	25
Pratt County—		Oregon:	
Pratt.....	1	Coos County.....	1
Rice County—		Pennsylvania:	
Sterling.....	1	Allegheny County.....	3
Riley County—		Blair County.....	1
Manhattan.....	1	Carbon County.....	1
Sedgwick County—		Chester County.....	1
Wichita.....	1	Dauphin County.....	2
Shawnee County—		Jefferson County.....	1
Topeka.....	1	Lackawanna County.....	1
Wyandotte County—		Lancaster County.....	1
Kansas City.....	4	Mercer County.....	1
Total.....	14	Philadelphia County.....	2
Mississippi:		Schuylkill County.....	1
Amite County.....	1	Somerset County.....	1
Bolivar County.....	1	Westmoreland County.....	1
Coahoma County.....	1	Delaware County.....	1
Covington County.....	1	Total.....	18
Montgomery County.....	2	South Carolina:	
Neshoba County.....	1	Richland County.....	2
Panola County.....	1	Pickens County.....	2
Washington County.....	1	Total.....	4
Total.....	9	Washington:	
Montana:		King County—	
Silver Bow County—		Seattle.....	1
Walkerville.....	1	Pierce County—	
		Tacoma.....	2
		Total.....	3

## City Reports for Week Ended Apr. 17, 1920.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Akron, Ohio.....	1		Minneapolis, Minn.....	1	1
Austin, Tex.....		1	Montgomery, Ala.....	1	1
Bedford, Ind.....		1	New Bedford, Mass.....	2	
Buffalo, N. Y.....		1	New Castle, Ind.....	1	1
Chicago, Ill.....	1		New Orleans, La.....	1	
Detroit, Mich.....	2	1	New York, N. Y.....	6	3
Erie, Pa.....	2		Passaic, N. J.....	1	
Fremont, Nebr.....	1		Pawtucket, R. I.....		1
Gary, Ind.....		1	Peoria, Ill.....	1	1
Hartford, Conn.....	1		Philadelphia, Pa.....	1	
Ithaca, N. Y.....		1	Providence, R. I.....	1	1
Kansas City, Mo.....	2	1	St. Louis, Mo.....	2	
Milwaukee, Wis.....		1	Savannah, Ga.....		1

## DIPHTHERIA.

See Telegraphic weekly reports from States, p. 1104; Monthly summaries by States, p. 1108; and Weekly reports from cities, p. 1126.

## INFLUENZA.

## Mississippi Report for March, 1920.

Place.	New cases reported.	Place.	New cases reported.
<b>Mississippi</b>		<b>Mississippi—Continued.</b>	
Adams County.....	48	Lincoln County.....	562
Alcorn County.....	457	Lowndes County.....	42
Amite County.....	283	Madison County.....	20
Benton County.....	6	Marion County.....	368
Bolivar County.....	909	Marshall County.....	175
Calhoun County.....	8	Monroe County.....	86
Carroll County.....	82	Montgomery County.....	363
Chickasaw County.....	172	Newton County.....	413
Claiborne County.....	25	Noxubee County.....	296
Clarke County.....	20	Oktibbeha County.....	10
Clay County.....	81	Panola County.....	306
Coahoma County.....	448	Pearl River County.....	471
Copiah County.....	301	Perry County.....	17
Covington County.....	172	Pike County.....	345
De Soto.....	137	Pontotoc County.....	262
Forrest County.....	292	Quitman County.....	134
Franklin County.....	155	Scott County.....	239
George County.....	65	Simpson County.....	140
Greene County.....	206	Smith County.....	205
Hancock County.....	51	Stone County.....	52
Harrison County.....	547	Sunflower County.....	505
Hinds County.....	561	Tallahatchie County.....	38
Holmes County.....	764	Tate County.....	237
Humphreys County.....	311	Tishomingo County.....	390
Issaquena County.....	14	Tunica County.....	145
Itawamba County.....	47	Union County.....	313
Jackson County.....	94	Walthall County.....	142
Jefferson County.....	91	Warren County.....	303
Jefferson Davis County.....	300	Washington County.....	259
Jones County.....	519	Webster County.....	68
Kemper County.....	850	Wilkinson County.....	89
Lafayette County.....	346	Winston County.....	147
Lauderdale County.....	225	Yalobusha County.....	256
Lawrence County.....	248	Yazoo County.....	561
Leake County.....	104		
Lee County.....	502	Total.....	17,482
Leflore County.....	82		

## City Reports for Week Ended Apr. 17, 1920.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Alameda, Calif.....		1	East Chicago, Ind.....	1	
Alton, Ill.....	1		Fall River, Mass.....	3	
Atlanta, Ga.....		2	Fort Wayne, Ind.....		1
Baltimore, Md.....	39	4	Gardner, Mass.....		1
Berkeley, Calif.....	3		Hartford, Conn.....	1	
Binghamton, N. Y.....	2	1	Haverhill, Mass.....	1	
Birmingham, Ala.....		2	Bibbing, Minn.....	1	
Boston, Mass.....	12	1	Hoboken, N. J.....		1
Bridgeport, Conn.....		2	Indianapolis, Ind.....	2	4
Buffalo, N. Y.....		2	Jamestown, N. Y.....	4	
Cambridge, Mass.....	2		Kansas City, Kans.....	1	
Centralia, Ill.....			Kansas City, Mo.....	4	4
Chicago, Ill.....	33	5	Kenosha, Wis.....	2	
Cincinnati, Ohio.....	8	2	Lackawanna, N. Y.....		1
Cleveland, Ohio.....	1	3	Lancaster, Ohio.....		1
Colorado Springs, Colo.....	5	2	Little Rock, Ark.....	1	
Columbia, S. C.....	2		Los Angeles, Calif.....	32	1
Columbus, Ohio.....		2	Louisville, Ky.....	3	
Cumberland, Md.....	3		Lynn, Mass.....	1	
Dallas, Tex.....	10	2	Marion, Ind.....	1	
Danville, Va.....	4		Minneapolis, Minn.....	1	2
Decatur, Ill.....	14	1	Mobile, Ala.....		4
Detroit, Mich.....	6	4	Morgantown, W. Va.....	1	



## INFLUENZA—Continued.

## City Reports for Week Ended Apr. 17, 1920—Continued.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Nashville, Tenn.		1	San Diego, Calif.	1	
New Haven, Conn.		6	San Francisco, Calif.	10	1
New Orleans, La.		3	Saugus, Mass.	1	
New York, N. Y.	51	29	Sioux Falls, S. Dak.	2	
Oakland, Calif.	1	1	Somerville, Mass.	1	
Omaha, Nebr.		1	Springfield, Mass.		2
Peekskill, N. Y.		1	Springfield, Ohio.	4	
Peoria, Ill.		1	Syracuse, N. Y.		2
Petersburg, Va.	8		Terre Haute, Ind.		1
Philadelphia, Pa.	4	3	Topeka, Kans.	2	
Portland, Me.	1		Trenton, N. J.	2	2
Providence, R. I.	1		Waco, Tex.	1	
Quincy, Mass.	2		Waltham, Mass.	1	
Redlands, Calif.	1		Washington, D. C.	5	4
Reno, Nev.		1	Wausau, Wis.	2	
Riverside, Calif.			Westfield, Mass.	1	
Rochester, N. Y.	4		West Orange, N. J.	3	
Rome, Ga.	6		Wichita, Kans.	2	
Rutland, Vt.	1		Willimantic, Conn.		2
Sacramento, Calif.	3		Wilmington, N. C.	1	

## LEPROSY.

## Los Angeles, Calif., and New Orleans, La.

During the week ended April 17, 1920, 1 case of leprosy was reported at Los Angeles, Calif., and 2 cases were reported at New Orleans, La.

## LETHARGIC ENCEPHALITIS.

## Connecticut, Illinois, Oregon, and Pennsylvania.

During March, 1920, 9 cases of lethargic encephalitis were reported in Connecticut, 39 in Illinois, 6 in Oregon, and 9 in Pennsylvania.

## MALARIA.

## State Reports for March, 1920.

Place.	New cases reported.	Place.	New cases reported.
Delaware:		Mississippi:	
Dover	1	Adams County	42
Illinois:		Alcorn County	44
Winnebago County—		Amite County	49
Rockford	1	Attala County	32
St. Clair County—		Benton County	8
Summerfield	2	Bolivar County	370
Bureau County—		Calhoun County	20
Bureau	2	Carroll County	33
Christian County—		Chickasaw County	2
Johnson Township	3	Choctaw County	10
Ford County—		Claiborne County	56
Mona Township	4	Clarke County	15
Franklin County—		Clay County	15
Browning Township	10	Coahoma County	240
Fulton County—		Copiah County	69
Buckheart Township	2	Covington County	46
Jackson County—		De Soto County	12
Elkville	2	Forest County	62
Madison County—		Franklin County	49
Edwardsville	10	George County	6
Venice	1	Greene County	31
Saline County—		Grenada County	20
Carrier Mills	5	Hancock County	56
Union County—		Harrison County	5
Mill Creek	5	Hinds County	160
State Institutions—		Holmes County	159
School and Colony at Lincoln	1	Humphreys County	95
Total	48	Issaquena County	6
		Itawamba County	13
		Jackson County	48
		Jasper County	40

## MALARIA—Continued.

## State Reports for March, 1920—Continued.

Place.	New cases reported.	Place.	New cases reported.
<b>Mississippi—Continued.</b>		<b>Mississippi—Continued.</b>	
Jefferson County.....	24	Rankin County.....	10
Jefferson Davis County.....	12	Scott County.....	22
Jones County.....	58	Sharkey County.....	75
Kemper County.....	19	Simpson County.....	28
La'ayette County.....	28	Smith County.....	38
Lamar County.....	37	Stone County.....	29
Lauderdale County.....	30	Sunflower County.....	263
Lawrence County.....	26	Tallahatchie County.....	72
Leake County.....	23	Tate County.....	60
Lee County.....	69	Tippah County.....	2
Leflore County.....	23	Tishomingo County.....	39
Lincoln County.....	55	Tunica County.....	99
Lowndes County.....	33	Union County.....	26
Madison County.....	16	Warren County.....	131
Marion County.....	27	Washington County.....	96
Marshall County.....	11	Webster County.....	9
Monroe County.....	58	Wilkinson County.....	35
Montgomery County.....	18	Winston County.....	50
Neshoba County.....	76	Yalobusha County.....	37
Newton County.....	8	Yazoo County.....	164
Noxubee County.....	39		
Oktibbeha County.....	60	Total.....	4,193
Panola County.....	41		
Pearl River County.....	53	<b>South Carolina:</b>	
Perry County.....	14	Chesterfield County.....	4
Pike County.....	44	Marion County.....	9
Pontotoc County.....	66	York County.....	10
Prentiss County.....	16	Total.....	23
Quitman County.....	105		

## City Reports for Week Ended Apr. 17, 1920.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Alameda, Calif.....	1	.....	Memphis, Tenn.....	1	1
Atlanta, Ga.....	1	.....	New York, N. Y.....	1	.....
Dallas, Tex.....	9	.....	San Francisco, Calif.....	1	.....
Los Angeles, Calif.....	1	.....	Savannah, Ga.....	2	.....

## MEASLES.

See Telegraphic weekly reports from States, p. 1104; monthly summaries by States, p. 1108; and Weekly reports from cities, p. 1126.

## PELLAGRA.

## State Reports for March, 1920.

Place.	New cases reported.	Place.	New cases reported.
<b>Mississippi:</b>		<b>Mississippi—Continued.</b>	
Adams County.....	8	Forest County.....	10
Alcorn County.....	1	Franklin County.....	2
Amite County.....	1	George County.....	1
Bolivar County.....	32	Greene County.....	4
Calhoun County.....	1	Hinds County.....	23
Carroll County.....	1	Holmes County.....	8
Claiborne County.....	1	Humphreys County.....	9
Clarke County.....	4	Issaquena County.....	1
Clay County.....	2	Itawamba County.....	1
Coahoma County.....	12	Jackson County.....	1
Copiah County.....	3	Jasper County.....	7
Covington County.....	9	Jefferson Davis County.....	3
De Soto County.....	8	Jones County.....	1

## PELLAGRA—Continued.

## State Reports for March, 1920—Continued.

Place.	New cases reported.	Place.	New cases reported.
<b>Mississippi—Continued.</b>		<b>Mississippi—Continued.</b>	
Kemper County.....	3	Tallahatchie County.....	3
Lafayette County.....	1	Tate County.....	1
Lamar County.....	3	Tunica County.....	11
Lauderdale County.....	1	Union County.....	2
Leake County.....	2	Walthall County.....	1
Lee County.....	6	Warren County.....	4
Lincoln County.....	4	Washington County.....	14
Lowndes County.....	2	Webster County.....	1
Madison County.....	2	Wilkinson County.....	2
Marion County.....	5	Winston County.....	1
Marshall County.....	8	Yazoo County.....	8
Monroe County.....	3		
Neshoba County.....	3	Total.....	293
Noxubee County.....	3		
Oktibbeha County.....	1	<b>Pennsylvania:</b>	
Pearl River County.....	2	Philadelphia County.....	4
Pike County.....	4		
Pontotoc County.....	1	<b>South Carolina:</b>	
Quitman County.....	7	Spartanburg County.....	2
Sharkey County.....	4	Union County.....	3
Simpson County.....	1		
Sunflower County.....	25	Total.....	5

## City Reports for Week Ended Apr. 17, 1920.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Atlanta, Ga.....		1	Little Rock, Ark.....	1	
Austin, Tex.....		1	Oklahoma City, Okla.....	1	
Birmingham, Ala.....		1	Richmond, Va.....		1
Chicago, Ill.....	1	1			

## PNEUMONIA (ALL FORMS).

## City Reports for Week Ended Apr. 17, 1920.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Akron, Ohio.....	9		Chattanooga, Tenn.....		2
Alameda, Calif.....	3	3	Chelsea, Mass.....	2	1
Albany, N. Y.....	7		Cheyenne, Wyo.....		1
Alexandria, Va.....		1	Chicago Heights, Ill.....		1
Alton, Ill.....	2	1	Chicago, Ill.....	279	72
Arlington, Mass.....	1		Cincinnati, Ohio.....	4	9
Ashtabula, Ohio.....		1	Cleveland, Ohio.....	31	31
Atlanta, Ga.....	2	4	Cohoes, N. Y.....	7	2
Atlantic City, N. J.....	3	4	Colorado Springs, Colo.....		1
Auburn, N. Y.....	1	1	Columbus, Ga.....	3	2
Baltimore, Md.....	61	20	Columbus, Ohio.....		3
Barberton, Ohio.....	1	1	Concord, N. H.....		1
Bedford, Ind.....		2	Covington, Ky.....		1
Benton Harbor, Mich.....	1		Cumberland, Md.....	1	1
Berkeley, Calif.....	2	1	Dallas, Tex.....	11	
Beverly, Mass.....	1		Dayton, Ohio.....	3	
Binghamton, N. Y.....	5	4	Dayton, Ill.....	1	
Birmingham, Ala.....	4	4	Denver, Colo.....		11
Bloomfield, N. J.....	1		Detroit, Mich.....	64	44
Bloomington, Ill.....		2	Duluth, Minn.....	6	2
Boston, Mass.....	20	21	East Chicago, Ind.....		6
Bridgeport, Conn.....		2	East St. Louis, Ill.....	2	2
Bristol, Conn.....		3	Elgin, Ill.....		1
Brockton, Mass.....	1	1	Elizabeth, N. J.....	3	4
Buffalo, N. Y.....		3	Elkhart, Ind.....		1
Butte, Mont.....	6	18	Elmira, N. Y.....		2
Cambridge, Mass.....	7	6	El Paso, Tex.....	1	8
Canton, Ohio.....		2	Englewood, N. J.....	2	1
Charleston, S. C.....		3	Eugene, Oreg.....	2	
Charlotte, N. C.....	1	1	Fall River, Mass.....	4	3

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## PNEUMONIA (ALL FORMS)—Continued.

City Reports for Week Ended Apr. 17, 1920—Continued.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Findlay, Ohio.....	2	1	Orange, Conn.....		2
Flint, Mich.....		1	Orange, N. J.....	6	3
Fort Wayne, Ind.....		2	Parkersburg, W. Va.....	1	
Fort Worth, Tex.....	8	8	Pasadena, Calif.....	1	2
Galesburg, Ill.....		1	Passaic, N. J.....	3	3
Gary, Ind.....		3	Pawtucket, R. I.....		3
Gloucester, N. J.....	1		Peekskill, N. Y.....		1
Grand Rapids, Mich.....	9	2	Peoria, Ill.....		4
Great Falls, Mont.....	1	2	Perth Amboy, N. J.....		3
Greenfield, Mass.....	2		Philadelphia, Pa.....	129	91
Hackensack, N. J.....	2	2	Piqua, Ohio.....		3
Hammond, Ind.....		1	Pittsfield, Mass.....	2	2
Harrison, N. J.....	1		Plainfield, N. J.....	3	
Hartford, Conn.....		5	Plymouth, Mass.....		3
Highland Park, Mich.....	5	1	Port Huron, Mich.....	1	1
Hoboken, N. J.....	1	4	Portland, Me.....	1	3
Holyoke, Mass.....	2	4	Portland, Oreg.....		5
Hot Springs, Ark.....		1	Portsmouth, Ohio.....		2
Indianapolis, Ind.....		13	Portsmouth, Va.....		3
Ironton, Ohio.....		1	Poughkeepsie, N. Y.....	1	3
Ishpeming, Mich.....	1		Providence, R. I.....		16
Ithaca, N. Y.....	2		Pueblo, Colo.....		2
Jacksonville, Ill.....		1	Quincy, Ill.....		2
Jamestown, N. Y.....	8	6	Quincy, Mass.....		3
Janesville, Wis.....	1		Redlands, Calif.....		1
Jersey City, N. J.....	5		Richmond, Ind.....		2
Kalamazoo, Mich.....	3	2	Richmond, Va.....		6
Kansas City, Kans.....	4		Riverside, Calif.....		1
Kansas City, Mo.....	14	11	Roanoke, Va.....		2
Kearny, N. J.....		2	Rochester, N. Y.....	25	8
Kewanee, Ill.....		1	Rockford, Ill.....	1	4
Kokomo, Ind.....		1	Rock Island, Ill.....	1	1
Lackawanna, N. Y.....	5	1	Sacramento, Calif.....	7	4
LaFayette, Ind.....		1	St. Joseph, Mo.....		2
La Salle, Ill.....		2	St. Paul, Minn.....		4
Lawrence, Kans.....		1	Salem, Mass.....	2	1
Lexington, Ky.....		1	Salt Lake City, Utah.....		1
Lincoln, Nebr.....	1		San Diego, Calif.....	3	2
Logansport, Ind.....		1	Sandusky, Ohio.....	2	
Long Beach, Calif.....			Sanford, Me.....		1
Lorain, Ohio.....	2		San Francisco, Calif.....	15	5
Los Angeles, Calif.....	47	13	Sault Ste. Marie, Mich.....	5	1
Louisville, Ky.....	6	9	Savannah, Ga.....		6
Lynn, Mass.....	1		Schenectady, N. Y.....	3	2
Malden, Mass.....	1	2	Sioux Falls, S. Dak.....	2	1
Manchester, Conn.....	1		Somerville, Mass.....	2	2
Manchester, N. H.....	3	3	South Bend, Ind.....		1
Mankato, Minn.....		2	Springfield, Ill.....	6	2
Marquette, Mich.....	2		Springfield, Mass.....	4	2
Medford, Mass.....	1		Springfield, Mo.....		2
Memphis, Tenn.....		13	Springfield, Ohio.....		1
Methuen, Mass.....	1	1	Stamford, Conn.....	1	
Middletown, Ohio.....	1		Staunton, Va.....		2
Milwaukee, Wis.....		21	Stockton, Calif.....		1
Minneapolis, Minn.....		7	Syracuse, N. Y.....	8	5
Missoula, Mont.....		2	Taunton, Mass.....	1	2
Mobile, Ala.....	1		Terre Haute, Ind.....		2
Montgomery, Ala.....		1	Toledo, Ohio.....	5	2
Morgantown, W. Va.....	1	1	Topeka, Kans.....		2
Morristown, N. J.....	2	1	Traverse City, Mich.....		2
Mount Vernon, N. Y.....	4	3	Trenton, N. J.....	4	3
Muncie, Ind.....		1	Troy, N. Y.....	4	1
Nashville, Tenn.....		5	Waco, Tex.....		2
New Bedford, Mass.....		11	Wakefield, Mass.....		
Newburyport, Mass.....	2	2	Waltham, Mass.....	1	
New Haven, Conn.....		6	Washington, D. C.....		16
New London, Conn.....	3	2	Watertown, Mass.....	1	
New Orleans, La.....		16	Wausau, Wis.....		1
Newton, Mass.....		1	West Orange, N. J.....		
New York, N. Y.....	338	228	Wheeling, W. Va.....	1	7
Niagara Falls, N. Y.....	4	2	White Plains, N. Y.....	5	1
Norfolk, Va.....		1	Wilmington, Del.....		1
Northampton, Mass.....	1		Wilmington, N. C.....		1
Norwich, Conn.....		1	Winchester, Mass.....	1	
Oakland, Calif.....		2	Winston-Salem, N. C.....	1	1
Oak Park, Ill.....	6		Yonkers, N. Y.....	6	2
Oklahoma City, Okla.....		1	Zanesville, Ohio.....		1
Omaha, Nebr.....		14			

**POLIOMYELITIS (INFANTILE PARALYSIS).****State Reports for March, 1920.**

Place.	New cases reported.	Place.	New cases reported.
<b>Connecticut:</b>		<b>Mississippi:</b>	
New Haven County—		Leake County.....	1
Naugatuck.....	1	Neshoba County.....	5
Orange.....	1	Yazoo County.....	1
Total.....	2	Total.....	7
<b>Illinois:</b>		<b>Montana:</b>	
Brown County—		Custer County—	
Lee Township.....	1	Miles City.....	1
Cook County—		<b>New York:</b>	
Chicago.....	3	Chautauqua County—	
Des Plaines.....	1	Jamestown.....	1
Elk Grove Township.....	1	Delaware County—	
Sangamon County—		Kortright.....	1
Sherman.....	1	Monroe County—	
Schuyler County—		Rochester.....	1
Hickory Township.....	1	New York City.....	4
Whiteside County—		Ontario County—	
Sterling.....	1	Geneva.....	1
Total.....	9	Total.....	8
<b>Kansas:</b>		<b>Pennsylvania:</b>	
Dickinson County—		Allegheny County.....	1
Carlton.....	1	Chester County.....	1
		Lackawanna County.....	1
		Total.....	3

**New Brunswick, N. J., and Philadelphia, Pa.**

During the week ended April 17, 1920, one case of poliomyelitis was reported at New Brunswick, N. J., and one was reported at Philadelphia, Pa.

**RABIES IN ANIMALS.****City Reports for Week Ended Apr. 17, 1920.**

Place.	Cases.	Place.	Cases.
Akron, Ohio.....	2	Kansas City, Mo.....	1
Chillicothe, Ohio.....	1	Tuscaloosa, Ala.....	1
Detroit, Mich.....	1		

**ROCKY MOUNTAIN SPOTTED OR TICK FEVER.****Starbuck, Wash., March, 1920.**

During March, 1920, one case of Rocky Mountain spotted or tick fever was reported at Starbuck, Columbia County, Wash.

**SCARLET FEVER.**

See Telegraphic weekly reports from States, p. 1104; Monthly summaries by States, p. 1108; and Weekly reports from cities, p. 1126.



May 7, 1920.

1116

## SMALLPOX.

## State Reports for March, 1920—Vaccination Histories.

Place.	New cases reported.	Deaths.	Vaccination history of cases.			
			Vaccinated within 7 years preceding attack.	Last vaccinated more than 7 years preceding attack.	Never successfully vaccinated.	History not obtained or uncertain.
Kansas:						
Allen County—						
Elmore.....	1				1	
Atchison County—						
Effingham.....	1				1	
Atchison.....	5					5
Bourbon County—						
Fort Scott.....	10		1		6	3
Brown County—						
Hiawatha.....	7			1	5	1
White Cloud (R. F. D.).....	1				1	
Powhattan.....	1				1	
Butler County—						
Riverside.....	4				4	
Leon.....	1				1	
Douglass.....	4				4	
Rose Hill.....	6				6	
Augusta.....	1				1	
El Dorado.....	32				6	26
Chase County—						
Strong City.....	1				1	
Cherokee County—						
Baxter Springs.....	1				1	
Galena (R. F. D.).....	1				1	
Treece.....	1				1	
Galena.....	3				3	
Cloud County—						
Concordia.....	1					1
Coffey County—						
Burlington.....	1				1	
Cowley County—						
Arkansas City.....	1				1	
Winfield.....	3					3
Crawford County—						
Hepler.....	1					1
Walnut.....	3					3
Pittsburg (R. F. D.).....	2				1	1
Pittsburg.....	16				3	13
Dickinson County—						
Manchester.....	4				4	
Elmo.....	1				1	
Abilene.....	10					10
Doniphan County—						
Troy (R. F. D.).....	2					2
Doniphan.....	1			1		
Ellinwood.....	1				1	
Wathana.....	2				2	
Douglas County—						
Lawrence.....	1				1	
Ellis County—						
Ellis.....	2				2	
Finney County—						
Garden City.....	17		2		9	6
Peterson.....	1					1
Ford County—						
Dodge City.....	8					8
Spearville.....	2				2	
Wright.....	1					1
Franklin County—						
Ottawa (I R. F. D.).....	3					3
Wellsville.....	1					1
Graham County—						
Edmond.....	5					5
Hill City.....	2					2
Penokee.....	1					1
Gray County—						
Montezuma.....	1					1
Cimarron.....	1					1
Harper County—						
Harper.....	1					1

## SMALLPOX—Continued.

## State Reports for March, 1920—Vaccination Histories—Continued.

Place.	New cases reported	Deaths.	Vaccination history of cases.			
			Vaccinated within 7 years preceding attack.	Last vaccinated more than 7 years preceding attack.	Never successfully vaccinated.	History not obtained or uncertain.
Kansas—Continued.						
Harvey County—						
Newton.....	1					1
Wilton.....	3					3
Hesston.....	2				2	
Moundridge.....	1					1
Jackson County—						
Holton.....	1				1	
Jefferson County—						
Perry.....	7					7
Jewell County—						
Formosa.....	8				3	5
Jewell.....	1					1
Otego.....	4				1	3
Johnson County—						
Kenneth.....	1					1
Kingman County—						1
Duquoin.....	1					1
Kiowa County—						
Haviland.....	1					1
Lafayette County—						
Chetopa.....	2				1	1
Parsons.....	9		1		5	3
Lane County—						
Dighton.....	2				2	
Marion County—						
Peabody.....	1					1
Marion.....	2					2
Marshall County—						
Irving.....	1				1	
McPherson County—						
Moundridge.....	2					2
Hesston (R. F. D.).....	1					1
McPherson.....	3					3
Galva.....	1					1
Montgomery County—						
Coffeyville.....	1					1
Independence.....	2			1		1
Morton County—						
Elkhart.....	2				2	1
Wilburton.....	1					1
Nemaha County—						
Centralia.....	2					2
Neosho County—						
St. Paul.....	3				1	2
Erie.....	1					1
Norton County—						
Norton.....	3					3
Almena.....	1					1
Lenora.....	1					1
Osage County—						
Osage City.....	7			1	6	
Melvern.....	1				1	
Pawnee County—						
Larned.....	2		1			1
Phillipsburg County—						
Long Island.....	2					2
Kensington.....	1				1	
Phillipsburg.....	4		1			3
Naponee (Nebr.).....	20					20
Pottawatomie County—						
St. Marys.....	6				2	4
Emmet.....	1				1	
Pratt County—						
Pratt.....	17		13	1		3
Rawlins County—						
Atwood.....	1					1
Reno County—						
Plevna.....	1					1
Sylvia.....	1				1	
Hutchinson (R. F. D.)..	2				1	1

## SMALLPOX—Continued.

## State Reports for March, 1920—Vaccination Histories—Continued.

Place.	New cases reported.	Deaths.	Vaccination history of cases.			
			Vaccinated within 7 years preceding attack.	Last vaccinated more than 7 years preceding attack.	Never successfully vaccinated.	History not obtained or uncertain.
Kansas—Continued.						
Republic County—						
Courtland.....	1				1	
Rice County—						
Sterling.....	3					3
Riley County—						
Cleburne.....	4				1	3
Manhattan.....	2					2
Rocks County—						
Zurich.....	15				15	
Saline County—						
Salina.....	6					6
Scott County—						
Scott City.....	21		1		6	14
Sedgwick County—						
Goddard.....	2				2	
Maize.....	2				2	
Garden Plain.....	1			1		
Andale.....	1				1	
Wichita (4 R. F. D.).....	62				1	61
Shawnee County—						
Topeka (1 R. F. D.).....	20			2	3	15
Sherman County—						
Goodland.....	1				1	
Smith County—						
Smith Center.....	13				2	11
Esbon.....	1				1	
Kensington.....	4				2	2
Stafford County—						
El Dorado.....	1					1
Sumner County—						
Caldwell.....	1					1
Trego County—						
Wakeeney.....	1				1	
Woodson County—						
Yates Center.....	3					3
Neosho Falls.....	1				1	
Wyandotte County—						
Edwardsville.....	1					1
Kansas City (1 R. F. D.).....	18				4	14
Total.....	500		20	8	146	326
Montana:						
Big Horn County—						
Hardin.....	3				3	
Cascade County—						
Great Falls.....	6				5	1
Custer County—						
Miles City.....	26				22	4
Dawson County—						
Glendive.....	7		2		5	
Fergus County—						
Lewistown.....	4				4	
Windham (R. D.).....	4				4	
Flathead County—						
Kalispell.....	2		1		1	
Kila.....	8				8	
O'Brien.....	2				2	
Glacier County—						
Browning.....	2				2	
Cut Bank.....	1				1	
Lewis and Clark County—						
Helena.....	2		1		1	
Lincoln County—						
Libby.....	1				1	
Missoula County—						
Missoula.....	11				11	
Musselshell County—						
Musselshell (R. D.).....	6				6	
Park County—						
Livingston.....	5			1	4	
Pondera County—						
Conrad.....	1				1	

## SMALLPOX—Continued.

## State Reports for March, 1920—Vaccination Histories—Continued.

Place.	New cases reported.	Deaths.	Vaccination history of cases.			
			Vaccinated within 7 years preceding attack.	Last vaccinated more than 7 years preceding attack.	Never successfully vaccinated.	History not obtained or uncertain.
Montana—Continued.						
Ravalli County—						
Hamilton.....	2				2	
Roosevelt County—						
Wolf Point.....	10				10	
Rosebud County—						
Forsyth.....	3				3	
Howard.....	1				1	
Valley County—						
Glasgow.....	6				6	
Wheatland County—						
Judith Gap.....	1				1	
Wibaux County—						
Wibaux.....	1				1	
Yellowstone County—						
Billings (5 R. D.).....	7				7	
Huntley (R. D.).....	3				3	
Laurel (1 R. D.).....	2				2	
Total.....	127		4	1	117	5
New York:						
Erie County—						
Buffalo.....	5					5
Collins (town).....	1				1	
Elma (town).....	1		1			
Lancaster.....	1					1
Franklin County—						
Bombay (town).....	4				4	
Fort Covington (town).....	1				1	
Fort Covington.....	14		1	3	10	
Monroe County—						
Ogden (town).....	1		1			
Sweden (town).....	1				1	
Brockport.....	8				8	
New York City.....	2					2
Niagara County—						
Niagara Falls.....	4					4
Royalton (town).....	4				4	
Total.....	47		3	3	29	12

## State Reports for March, 1920.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
<b>Illinois:</b>					
Adams County.....	5		<b>Illinois—Continued.</b>		
Alexander County—			Douglas County—Contd.		
Cairo.....	1		Hindsboro.....	4	
Carroll County.....	1		Bowdre Township.....	3	
Cass County.....			Sargent Township.....	2	
Richmond precinct.....	3		Tuscola.....	1	
Champaign County.....	1		Edgar County—		
Christian County—			Buck Township.....	5	
Taylorville Township.....	4		Embarrass Township.....	35	
Clay County.....	1		Grandview Township.....	2	
Coles County.....	1		Paris.....	2	
Cook County—			Redmon.....	2	
Chicago.....	20		Shiloh Township.....	1	
Evanston.....	4		Symmes.....	1	
Crawford County—			Fayette County—		
Robinson.....	1		Benton.....	16	
De Witt County—			Ramsey Township.....	11	
Clinton.....	1		Six Mile Township.....	12	
Douglas County—			Franklin County—		
Arthur.....	2		Christopher.....	1	
Garrett.....	1		Cave Township.....	10	
			Frankfort Township.....	1	

## SMALLPOX—Continued.

## State Reports for March, 1920—Continued.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Illinois—Continued.			Illinois—Continued.		
Fulton County—			Morgan County.....	14	
Paris Township.....	1		Waverly.....	1	
Joshua Township.....	6		Waverly precinct.....	1	
See Township.....	1		Moultrie County.....	2	
Gallatin County.....	6		Peoria County.....	7	
Asbury Township.....	1		Limestone township.....	1	
Greene County—			Radnor township.....	1	
Wrights Township.....	4		Perry County—		
Hamilton County—			Southwest Township.....	8	
Crouch township.....	10		Platt County—		
Dahlgren township.....	2		Blue Ridge Township.....	4	
Flanagan township.....	3		Pike County.....	2	
Knight Prairie town- ship.....	3		Pittsfield.....	1	
Twig township.....	2		Pope County—		
Hancock County.....	1		Golconda.....	1	
Warsaw.....	2		Pulaski County—		
Hardin County.....	2		New Grand Chain.....	1	
Henry County—			Mound City.....	9	
Galva.....	1		Putnam County.....	5	
Kewanee.....	8		Randolph County.....	1	
Cambridge.....	1		Richland County.....	3	
Kewanee township.....	1		Rock Island County—		
Jackson County—			East Moline.....	8	
Murphysboro.....	4		Moline.....	25	
Grand Tower town- ship.....	6		Reynolds.....	4	
Jasper County—			Rock Island.....	15	
South Muddy town- ship.....	9		Saline County.....	4	
Jefferson County.....	2		East Eldorado Town- ship.....	1	
Jersey County.....	21		Schuyler County—		
Otterville.....	3		Fredericks Township.....	1	
Johnson County—			St. Clair County.....	4	
Cypress.....	7		Marion.....	1	
Simpson.....	3		Union County.....	7	
Kane County.....	5		Mill Creek.....	6	
Knox County—			Vermilion County.....	5	
Galceburg.....	26		Carlin Township.....	1	
Lynn township.....	4		Danville.....	3	
Salem township.....	1		Warren County.....	1	
Yates City.....	4		Greenbush Township.....	2	
Lake County.....	2		Washington County.....	1	
La Salle County—			Nashville.....	4	
Ottawa.....	1		Nashville Township.....	1	
Lawrence.....	3		Wayne County—		
Bridgeport.....	3		Wayne City.....	18	
Russellville.....	2		Whiteside County.....	1	
Lawrenceville.....	25		Sterling Township.....	1	
McDonough County.....	3		Will County.....	2	
Bushnell.....	24		Williamson County—		
Good Hope.....	3		Blairsville Township.....	1	
Prairie City.....	6		Winnebago County—		
Mound township.....	6		Rockford.....	1	
McLean County.....	1		Rockton Township.....	10	
Macon County—			Woodford County—		
Decatur.....	15		Cruzer Township.....	4	
Long Creek township.....	1				
Macoupin County.....	1		Total.....	668	
Virden.....	5				
Madison County.....	10		Iowa:		
Venice.....	5		Adair County.....	2	
Nemeekei township.....	4		Allamakee County.....	1	
Marion County—			Appanoose County.....	1	
Centralia.....	2		Benton County.....	28	
Marshall County—			Blackhawk County.....	10	
Roberts township.....	3		Boone County.....	20	
Massac County—			Buena Vista County.....	1	
Joppa.....	10		Butler County.....	9	
Metropolis.....	4		Calhoun County.....	1	
Menard County—			Cerro Gordo County.....	25	
Tallula.....	2		Cherokee County.....	4	
Mercer County.....	1		Clay County.....	1	
Joy.....	1		Davis County.....	8	
Sherrard.....	3		Des Moines County.....	2	1
Millersburg township.....	2		Dubuque County.....	15	
Montgomery County—			Emmet County.....	4	
Coffeen.....	1		Fayette County.....	3	
Hillsboro.....	1		Franklin County.....	2	
			Humboldt County.....	6	
			Iowa County.....	3	



## SMALLPOX—Continued.

## State Reports for March, 1920—Continued.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
<b>Iowa—Continued.</b>			<b>North Dakota—Continued</b>		
Jasper County.....	24	.....	Lamoure County—		
Jones County.....	2	.....	Lamoure.....	2	.....
Linn County.....	13	.....	McIntosh County.....	3	.....
Lyon County.....	2	.....	Pierce County.....	2	.....
Mahaska County.....	2	.....	Towner County.....	2	.....
Marshall County.....	5	.....	Cando.....	2	.....
Montgomery County.....	1	.....	Total.....	28	.....
O'Brien County.....	1	.....			
Pocahontas County.....	26	.....	<b>Oregon:</b>		
Polk County.....	11	.....	Baker County.....	2	.....
Pottawattamie County.....	19	.....	Clackamas County.....	25	.....
Poweshiek County.....	1	.....	Clatsop County.....	3	.....
Sac County.....	1	.....	Columbia County.....	1	.....
Scott County.....	69	.....	Coos County.....	12	1
Shelby County.....	1	.....	Deschutes County.....	8	.....
Tama County.....	2	.....	Gilliam County.....	2	.....
Van Buren County.....	3	.....	Hood River County.....	1	.....
Wapello County.....	11	.....	Jackson County.....	3	.....
Webster County.....	3	.....	Lane County.....	4	.....
Total.....	343	1	Lincoln County.....	2	.....
			Linn County.....	8	.....
<b>Mississippi:</b>			Malheur County.....	1	.....
Adams County.....	2	.....	Multnomah County.....	4	.....
Alcorn County.....	1	.....	Portland.....	153	.....
Attala County.....	3	.....	Umatilla County.....	16	.....
Bolivar County.....	160	.....	Wasco County.....	17	.....
Coahoma County.....	18	.....	Washington County.....	7	.....
Copiah County.....	2	.....	Total.....	269	1
De Soto County.....	5	.....			
Forest County.....	2	.....	<b>Pennsylvania:</b>		
Franklin County.....	4	.....	Allegheny County.....	4	.....
Greene County.....	6	.....	Bedford County.....	2	.....
Grenada County.....	1	.....	Chester County.....	4	.....
Hinds County.....	21	.....	Clearfield County.....	3	.....
Holmes County.....	26	.....	Crawford County.....	1	.....
Issaquena County.....	1	.....	Fayette County.....	1	.....
Jackson County.....	2	.....	Lawrence County.....	4	.....
Jasper County.....	4	.....	Mercer County.....	1	.....
Jones County.....	50	.....	Philadelphia County.....	2	.....
Lamar County.....	2	.....	Westmoreland County.....	2	.....
Lee County.....	2	.....	Total.....	24	.....
Leflore County.....	11	.....			
Lincoln County.....	2	.....	<b>South Carolina:</b>		
Lowndes County.....	2	.....	Aiken County.....	4	.....
Madison County.....	5	.....	Barnwell County.....	4	.....
Marion County.....	8	.....	Chester County.....	3	.....
Marshall County.....	25	.....	Dorchester County.....	1	.....
Monroe County.....	2	.....	Florence County.....	1	.....
Montgomery County.....	3	.....	Greenville County.....	3	.....
Newton County.....	4	.....	Greenwood County.....	1	.....
Oktibbeha County.....	4	.....	Laurens County.....	1	.....
Panola County.....	1	.....	Marion County.....	3	.....
Pearl River County.....	1	.....	Richland County.....	2	.....
Perry County.....	6	.....	Spartanburg County.....	13	.....
Pike County.....	4	.....	Sumter County.....	5	.....
Pontotoc County.....	16	.....	Union County.....	3	.....
Quitman County.....	8	.....	Total.....	41	.....
Scott County.....	3	.....			
Sharkey County.....	6	.....	<b>Washington:</b>		
Sunflower County.....	103	.....	Adams County.....	10	.....
Tallahatchie County.....	11	.....	Ritzville.....	8	.....
Tunica.....	8	.....	Asotin County.....	5	.....
Union County.....	7	.....	Benton County—		
Warren County.....	21	.....	Kennewick.....	1	.....
Washington County.....	48	.....	Chelan County.....	3	.....
Webster County.....	12	.....	Cashmere.....	2	.....
Yazoo County.....	2	.....	Wenatchee.....	8	.....
Total.....	635	.....	Clarke County.....	5	.....
			Vancouver.....	8	.....
<b>North Dakota:</b>			Yacolt.....	15	.....
Benson County.....	5	.....	Washougal.....	7	.....
Billings County.....	1	.....	Columbia County.....	4	.....
Cass County—			Dayton.....	1	.....
Fargo.....	1	.....			
Griggs County.....	1	.....			
Hettinger County.....	9	.....			

## SMALLPOX—Continued.

## State Reports for March, 1920—Continued.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Washington—Continued.			Washington—Continued.		
Cowlitz County.....	4	.....	Skagit County.....	6	.....
Castle Rock.....	1	.....	Mount Vernon.....	2	.....
Kelso.....	3	.....	Burlington.....	1	.....
Douglas County.....	5	.....	Sedro Woolley.....	2	.....
Waterville.....	1	.....	Hamilton.....	1	.....
Franklin County—			Snohomish County.....	8	.....
Pasco.....	4	.....	Snohomish.....	1	.....
Garfield County.....	2	.....	Marysville.....	1	.....
Grant County.....	11	.....	Granite Falls.....	1	.....
Grays Harbor County—			Everett.....	10	.....
Hoquiam.....	10	.....	Spokane County.....	6	.....
Aberdeen.....	4	.....	Fairfield.....	1	.....
Montesano.....	3	.....	Deer Park.....	3	.....
Island County.....	1	.....	Hillyard.....	7	.....
Coupeville.....	1	.....	Cheney.....	1	.....
Jefferson County.....	20	.....	Spokane.....	161	.....
Port Townsend.....	2	.....	Stevens County.....	22	.....
King County.....	19	.....	Thurston County.....	6	.....
Enumclaw.....	3	.....	Olympia.....	2	.....
Auburn.....	1	.....	Tenino.....	2	.....
Kirkland.....	1	.....	Walla Walla County.....	11	.....
Seattle.....	103	.....	Walla Walla.....	19	.....
Kittitas County.....	4	.....	Waitsburg.....	2	.....
Ellensburg.....	6	.....	Whatcom County.....	2	.....
Lewis County.....	7	.....	Bellingham.....	33	.....
Vader.....	1	.....	Whitman County—		
Winlock.....	2	.....	Malden.....	5	.....
Centralia.....	19	.....	Tekoa.....	13	.....
Lincoln County.....	2	.....	Yakima County.....	37	.....
Almira.....	5	.....	Toppenish.....	5	.....
Odessa.....	2	.....	Granger.....	1	.....
Pacific County.....	5	.....	Yakima.....	30	.....
South Bend.....	4	.....	Zillah.....	2	.....
Raymond.....	4	.....			
Pierce County.....	20	.....	Total.....	790	.....
Tacoma.....	26	.....			
Puyallup.....	2	.....			
Eatonville.....	1	.....			

## City Reports for Week Ended Apr. 17, 1920.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Aberdeen, S. Dak.....	3	.....	Dayton, Ohio.....	1	.....
Akron, Ohio.....	12	.....	Decatur, Ill.....	1	.....
Ann Arbor, Mich.....	4	.....	Denver, Colo.....	47	.....
Appleton, Wis.....	3	.....	Detroit, Mich.....	27	.....
Atlanta, Ga.....	6	.....	Dubuque, Iowa.....	16	1
Baltimore, Md.....	1	.....	Duluth, Minn.....	5	.....
Beatrice, Nebr.....	2	.....	East St. Louis, Ill.....	2	.....
Bedford, Ind.....	7	.....	Eau Claire, Wis.....	2	.....
Belleville, N. J.....	1	.....	El Paso, Tex.....	1	1
Billings, Mont.....	2	.....	Elwood, Ind.....	1	.....
Birmingham, Ala.....	21	.....	Flint, Mich.....	1	.....
Bloomington, Ind.....	1	.....	Fond du Lac, Wis.....	2	.....
Bluefield, W. Va.....	5	.....	Fort Scott, Kans.....	5	.....
Boise, Idaho.....	15	.....	Fort Worth, Tex.....	9	.....
Brazil, Ind.....	1	.....	Fostoria, Ohio.....	1	.....
Cairo, Ill.....	3	.....	Galesburg, Ill.....	7	.....
Canton, Ohio.....	6	.....	Gary, Ind.....	3	.....
Charleston, S. C.....	8	.....	Grand Rapids, Mich.....	1	.....
Chattanooga, Tenn.....	2	.....	Green Bay, Wis.....	4	.....
Cheyenne, Wyo.....	1	.....	Highland Park, Mich.....	4	.....
Chicago, Ill.....	1	.....	Hot Springs, Ark.....	1	.....
Cincinnati, Ohio.....	1	.....	Huntington, Ind.....	8	.....
Cleveland, Ohio.....	2	.....	Indianapolis, Ind.....	2	.....
Coffeyville, Kans.....	1	.....	Ironwood, Mich.....	1	.....
Columbia, S. C.....	1	.....	Jacksonville, Ill.....	4	.....
Coshocton, Ohio.....	5	.....	Kansas City, Kans.....	4	.....
Council Bluffs, Iowa.....	1	.....	Kansas City, Mo.....	13	.....
Covington, Ky.....	1	.....	Kenosha, Wis.....	4	.....
Dallas, Tex.....	10	.....	Kewanee, Ill.....	4	.....
Danville, Va.....	1	.....	Knoxville, Tenn.....	10	.....
Davenport, Iowa.....	11	.....	Kokomo, Ind.....	3	.....

## SMALLPOX—Continued.

## City Reports for Week Ended Apr. 17, 1920—Continued.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
La Fayette, Ind.	2	.....	Passaic, N. J.	1	.....
Laurel, Miss.	1	1	Portland, Oreg.	19	.....
Lima, Ohio.	1	.....	Portsmouth, Va.	4	.....
Lincoln, Nebr.	12	.....	Quincy, Ill.	1	.....
Logansport, Ind.	2	.....	Racine, Wis.	1	.....
Long Beach, Calif.	2	.....	Redlands, Calif.	1	.....
Lorain, Ohio.	1	.....	Reno, Nev.	1	.....
Los Angeles, Calif.	5	.....	Richmond, Ind.	1	.....
Louisville, Ky.	3	.....	Rock Island, Ill.	7	.....
Lynchburg, Va.	2	.....	Rome, Ga.	1	.....
Macon, Ga.	1	.....	Sacramento, Calif.	1	.....
Marion, Ind.	1	.....	St. Cloud, Minn.	2	.....
Marion, Ohio.	5	.....	St. Joseph, Mo.	20	.....
Marquette, Mich.	1	.....	St. Louis, Mo.	8	.....
Marshalltown, Iowa	9	.....	St. Paul, Minn.	14	.....
Martinsburg, W. Va.	1	.....	Salt Lake City, Utah.	37	.....
Mason City, Iowa.	9	.....	San Bernardino, Calif.	6	.....
Memphis, Tenn.	7	.....	San Diego, Calif.	2	.....
Milwaukee, Wis.	11	.....	Sandusky, Ohio.	5	.....
Minneapolis, Minn.	42	.....	San Francisco, Calif.	3	.....
Mishawaka, Ind.	1	.....	Sioux Falls, S. Dak.	6	.....
Mobile, Ala.	7	.....	South Bend, Ind.	3	.....
Montgomery, Ala.	1	.....	Spartanburg, S. C.	3	.....
Muncie, Ind.	1	.....	Springfield, Ill.	1	.....
Muskogee, Okla.	1	.....	Springfield, Ohio.	3	.....
New Castle, Pa.	2	.....	Staunton, Va.	1	.....
New Orleans, La.	28	6	Stockton, Calif.	1	.....
Norfolk, Va.	3	.....	Superior, Wis.	16	.....
North Little Rock, Ark.	1	.....	Topeka, Kans.	8	.....
Oakland, Calif.	2	.....	Vicksburg, Miss.	2	.....
Oklahoma City, Okla.	7	.....	Washington, D. C.	10	.....
Omaha, Nebr.	11	.....	Wausau, Wis.	1	.....
Oshkosh, Wis.	1	.....	Wichita, Kans.	18	.....
Parsons, Kans.	2	.....	Wilmington, N. C.	1	.....
Pasadena, Calif.	1	.....	Winona, Minn.	1	.....

## TETANUS.

## City Reports for Week Ended Apr. 17, 1920.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Baltimore, Md.	.....	1	New York, N. Y.	1	.....
Boston, Mass.	1	1	Savannah, Ga.	.....	.....
Chicago, Ill.	1	1			

## TRICHINOSIS.

## Illinois—March, 1920.

During March, 1920, seven cases of trichinosis were reported in Illinois.

## TUBERCULOSIS.

See Telegraphic weekly reports from States, p. 1104; and Weekly reports from cities p. 1126.

**TYPHOID FEVER.**  
**State Reports for March, 1920.**

Place.	New cases reported.	Place.	New cases reported.
<b>Connecticut:</b>		<b>Illinois—Continued.</b>	
Fairfield County—		St. Clair County—	
Redding.....	1	East St. Louis.....	1
Stamford.....	1	Williamson County—	
Hartford County—		Carterville.....	3
Hartford.....	1	Total.....	68
New Haven County—			
Waterbury.....	2	<b>Kansas:</b>	
Windham County—		Coffey County—	
Windham.....	1	Burlington.....	1
Total.....	6	Comanche County—	
<b>Delaware:</b>		Protection.....	2
New Castle County—		Harper County—	
Wilmington.....	2	Anthony.....	1
St. Georges County.....	1	Miami County—	
Total.....	3	Fontana.....	1
<b>Illinois:</b>		Nemaha County—	
Champaign County—		Centralia.....	1
Champaign.....	3	Shawnee County—	
Urbana.....	1	Topeka.....	1
Cook County—		Wyandotte County—	
Chicago.....	11	Kansas City.....	1
Cicero.....	1	Total.....	8
Des Plaines.....	1	<b>Mississippi:</b>	
Glencoe.....	2	Adams County.....	2
Morton Grove.....	1	Alcorn County.....	1
DuPage County—		Attala County.....	4
West Chicago.....	1	Bolivar County.....	4
Jefferson County—		Calhoun County.....	1
Blissville Township.....	1	Clarke County.....	1
Jersey County—		Coahoma County.....	3
Jerseyville.....	2	Copiah County.....	3
Kane County—		Franklin County.....	1
Aurora.....	2	George County.....	1
Lake County—		Greene County.....	2
Waukegan.....	1	Hinds County.....	1
La Salle County—		Holmes County.....	5
La Salle.....	1	Hawamba County.....	1
McHenry County—		Jefferson County.....	4
Woodstock.....	1	Jefferson Davis County.....	1
McLean County—		Jones County.....	1
Bloomington.....	10	Kemper County.....	4
Macoupin County—		Lauderdale County.....	3
Bunker Hill.....	1	Lawrence County.....	3
South Otter Township.....	1	Leake County.....	2
Virden.....	1	Lincoln County.....	2
Madison County—		Madison County.....	1
Alton.....	1	Marshall County.....	1
Marion County—		Monroe County.....	4
Salem.....	2	Noxubee County.....	5
Peoria County—		Oktibbeha County.....	1
Peoria.....	2	Pearl River County.....	1
Rock Island County—		Perry County.....	3
Moline.....	1	Pontotoc County.....	1
Sangamon County—		Stone County.....	2
Springfield.....	3	Tate County.....	5
Tazewell County—		Tishomingo County.....	2
Tremont.....	1	Tunica County.....	1
Winnebago County—		Walthall County.....	2
Rockford.....	1	Warren County.....	5
Coles County—		Washington County.....	4
Mattoon.....	1	Wilkinson County.....	1
Humboldt Township.....	1	Yalobusha County.....	9
Cook County—		Total.....	98
Maine Township.....	1	<b>Montana:</b>	
River Forest.....	1	Carbon County—	
Tinley Park.....	2	Bridger.....	1
Greene County—		Rosebud County—	
Lindler Township.....	1	Forsyth.....	1
Livingston County—		Treasure County—	
Round Grove Township.....	1	Hysham.....	1
McDonough County—		Yellowstone County—	
Bushnell.....	1	Billings (R. D.).....	1
Perry County—		Total.....	4
Pinckneyville.....	1		
Stark County—			
Toulon.....	1		

## TYPHOID FEVER—Continued.

## State Reports for March, 1920—Continued.

Place.	New cases reported.	Place.	New cases reported.
<b>New York:</b>		<b>North Dakota—Continued.</b>	
Albany County—		Cass County.....	1
Albany.....	1	Williams County—	
Allegany County—		Williston.....	1
Wellsville.....	1	<b>Total.....</b>	<b>13</b>
Broome County—		<b>Oregon:</b>	
Binghamton.....	2	Clackamas County.....	1
Cattaraugus County—		Umatilla County.....	2
Salamanca.....	1	Portland.....	1
Chautauqua County—		<b>Total.....</b>	<b>4</b>
Stockton (town).....	1	<b>Pennsylvania:</b>	
Chemung County—		Adams County.....	5
Elmira.....	1	Allegheny County.....	10
Essex County—		Armstrong County.....	10
Crown Point (town).....	1	Beaver County.....	2
Jay (town).....	2	Berks County.....	4
Greene County—		Blair County.....	2
Catskill.....	4	Bradford County.....	2
Coxsackie (town).....	1	Bucks County.....	5
Herkimer County—		Butler County.....	2
Herkimer.....	1	Chester County.....	3
Jefferson County—		Clinton County.....	1
Watertown.....	2	Cumberland County.....	10
Nassau County—		Dauphin County.....	3
Freeport.....	1	DeLaware County.....	3
New York City.....	25	Erie County.....	2
Niagara County—		Fayette County.....	2
Lockport.....	1	Fulton County.....	1
Niagara Falls.....	1	Indiana County.....	3
North Tonawanda.....	2	Jefferson County.....	1
Oneida County—		Lancaster County.....	1
Utica.....	1	Lebanon County.....	2
Boonville (town).....	1	Lehigh County.....	1
Forestport (town).....	1	Mercer County.....	2
Whitesboro.....	1	Montgomery County.....	5
Onondaga County—		Northampton County.....	1
Syracuse.....	1	Northumberland County.....	1
Ontario County—		Philadelphia County.....	15
Seneca (town).....	1	Venango County.....	6
Orange County—		Washington County.....	3
Newburgh.....	1	York County.....	4
Fort Jervis (city).....	1	<b>Total.....</b>	<b>112</b>
Walden.....	2	<b>South Carolina:</b>	
Rensselaer County—		Chester County.....	4
Rensselaer.....	1	<b>Washington:</b>	
Troy.....	2	Chelan County.....	6
St. Lawrence County—		Cashmere.....	4
Gouverneur.....	5	Wenatchee.....	5
Lisbon (town).....	2	Island County—	
Saratoga County—		Coupeville.....	1
Waterford.....	1	King County.....	1
Ulster County—		Seattle.....	1
Esopus (town).....	1	Skagit County—	
Warren County—		Mt. Vernon.....	1
Johnsburg (town).....	1	Yakima County.....	1
Washington County—		<b>Total.....</b>	<b>20</b>
Whitehall.....	2		
Westchester County—			
Bedford (town).....	1		
Ardsley.....	1		
<b>Total.....</b>	<b>75</b>		
<b>North Dakota:</b>			
Burleigh County—			
Bismarck.....	16		

## TYPHOID FEVER—Continued.

City Reports for Week Ended Apr. 17, 1920.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Alexandria, Va.	1		Mount Vernon, N. Y.	3	
Alton, Ill.	1		Nashville, Tenn.	1	
Ann Arbor, Mich.	1		New Bedford, Mass.	1	1
Atlanta, Ga.	1		New Orleans, La.	1	
Baltimore, Md.	4		New York, N. Y.	4	
Beverly, Mass.	3		Niagara Falls, N. Y.	2	
Birmingham, Ala.	1		Omaha, Nebr.	3	
Boston, Mass.	2	1	Pekin, Ill.	2	1
Buffalo, N. Y.	1	1	Philadelphia, Pa.	4	1
Charleston, W. Va.	1		Pittsburgh, Pa.	1	
Chicago, Ill.	5		Pittsfield, Mass.	1	
Chillicothe, Ohio.	1		Portland, Me.	2	
Cincinnati, Ohio.	3	1	Providence, R. I.		1
Cleveland, Ohio.	1		Pueblo, Colo.		1
Coffeyville, Kans.	1		Richmond, Va.	2	
Cumberland, Md.	1		Rome, Ga.	1	
Dallas, Tex.	5		Sacramento, Calif.	1	
Danville, Va.	1		St. Louis, Mo.	2	
Detroit, Mich.	1		Saratoga Springs, N. Y.	1	
El Paso, Tex.	1	2	Savannah, Ga.	1	
Erie, Pa.	1		Schenectady, N. Y.	19	1
Fairmont, W. Va.	1		Sheboygan, Wis.	1	
Fremont, Ohio.	2		Springfield, Ill.	3	
Hammond, Ind.	1		Stamford, Conn.	1	
Hoboken, N. J.	1		Superior, Wis.	1	
Ironton, Ohio.	1		Syracuse, N. Y.	1	
Lawrence, Mass.	3		Toledo, Ohio.	1	
Lima, Ohio.	1		Watertown, N. Y.	2	
Logansport, Ind.	2		Wheeling, W. Va.	1	
Lorain, Ohio.	5		Wilmington, Del.		3
Los Angeles, Calif.	1	1	Zanesville, Ohio.		1
Louisville, Ky.	1				

## TYPHUS FEVER.

New York, N. Y.—March, 1920.

During March, 1920, one case of typhus fever was reported in New York, N. Y.

## DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

City Reports for Week Ended Apr. 17, 1920.

City.	Population as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Aberdeen, S. Dak.	15,926	6	2		31		6			
Aberdeen, Wash.	21,362				2		1			
Adams, Mass.	14,466	1								
Akron, Ohio.	93,664	47	4		25		56		5	
Alameda, Calif.	28,433	8	3		10		1			
Albany, Ga.	10,979		3		1		6		5	
Alexandria, Va.	17,959	3								
Allentown, Pa.	65,109		4		2		1		2	
Alton, Ill.	23,783	5	1		16					
Altoona, Pa.	59,712		4				2			
Amesbury, Mass.	10,200	1			14					
Anaconda, Mont.	10,631	4								
Ann Arbor, Mich.	15,041	20	2		10		9		1	
Annisston, Ala.	14,326								1	
Appleton, Wis.	18,005				15		3			
Arlington, Mass.	13,073				6				1	
Asbury Park, N. J.	14,629	2	1		2					
Ashland, Ky.	12,195				1					
Ashland, Wis.	11,594						2			
Ashtabula, Ohio.	22,008	3	1		5					

1 Population Apr. 15, 1910.



# DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS— Continued.

City Reports for Week Ended Apr. 17, 1920—Continued.

City.	Popula- tion as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Atchison, Kans.	16,785				1					
Atlanta, Ga.	106,144	48	1		29		9		1	4
Atlantic City, N. J.	55,515	12	7		11		1			
Attleboro, Mass.	19,776	3			2		3			
Auburn, Me.	16,607						2		1	
Auburn, N. Y.	37,823	9	2				1		5	3
Austin, Tex.	35,612	11								4
Baltimore, Md.	504,637	192	37	2	260	3	31		32	24
Barberton, Ohio.	14,187	5	1		5		5			
Barre, Vt.	12,401				27					
Baton Rouge, La.	17,544	10								3
Bayonne, N. J.	72,204		4		7				1	
Beatrice, Nebr.	10,437	3					1			
Bedford, Ind.	10,613	7					1			
Bellefonte, N. J.	12,707				4					
Bellingham, Wash.	34,362				10				1	
Beloit, Wis.	18,547		1		33		8			2
Benton Harbor, Mich.	11,099				5		2		2	
Berkeley, Calif.	60,427	9	2		24		2			
Bethlehem, Pa.	14,353		4		1		1			
Beverly, Mass.	22,128	6								
Billings, Mont.	15,123	6			47				1	
Binghamton, N. Y.	54,864	23	2				1		1	
Birmingham, Ala.	189,716	43	2		8	1	7		3	6
Bloomfield, N. J.	19,013	2	1		8		5			
Bloomington, Ill.	27,462	7	1		2		3			
Bloomington, Ind.	11,661	2					2			
Bluefield, W. Va.	16,123				3		2			
Boise, Idaho.	35,951	5			1		1			
Boston, Mass.	767,813	246	27	2	273	3	61	6	65	28
Braddock, Pa.	22,060				1		2			
Brazil, Ind.	10,472	1								
Bridgeport, Conn.	124,724	28	9		4		9		2	1
Bristol, Conn.	16,318	3			1		1			
Brockton, Mass.	69,152	10	3		4		3		2	1
Brookline, Mass.	33,526	6			19		1		3	
Brunswick, Ga.	10,984	8	1	1	1				1	1
Buffalo, N. Y.	475,781	153		4	1					12
Burlington, Iowa.	25,144						11			
Butler, Pa.	28,677				7		1		1	
Butte, Mont.	44,057	17	1				1		2	3
Cadillac, Mich.	10,158	2								
Cairo, Ill.	15,995	3	1		2					1
Cambridge, Mass.	114,293	38	4		53		9		4	4
Canton, Ohio.	62,566	17	2		9		8			1
Carbondale, Pa.	19,397		1				1			
Carlisle, Pa.	10,795		1		2		1			
Centralia, Ill.	11,838	3			39		1			
Chambersburg, Pa.	12,475				10					
Chanute, Kans.	12,968	2	1		10					
Charleston, S. C.	61,041	19								1
Charlotte, N. C.	40,759	14			1				5	
Chattanooga, Tenn.	61,575	7			8		1			2
Chelsea, Mass.	48,405	13			9		1		6	1
Chester, Pa.	41,857				44				1	
Cheyenne, Wyo.	11,320	6			5	1	2		1	
Chicago Heights, Ill.	22,863	5								1
Chicago, Ill.	2,247,201	660	118	13	386		233	3	210	63
Chicopee, Mass.	29,950	6	2		4		2		1	1
Chillicothe, Ohio.	15,625	2			5					
Cincinnati, Ohio.	414,248	104	11	1	223	2	56		18	10
Cleveland, Ohio.	192,259	185	22	3	94	2	34		27	20
Clinton, Mass.	13,075	2								
Coatesville, Pa.	14,998				2		1			
Coffeyville, Kans.	18,331	3			6					
Cohoes, N. Y.	25,292	7								
Colorado Springs, Colo.	38,965	12							4	2
Columbia, Pa.	11,454				1					
Columbia, S. C.	35,165		1		12					
Columbus, Ga.	26,306								1	
Columbus, Ohio.	220,135	74	4		182		18		4	7

<sup>1</sup> Population Apr. 15, 1910.

# DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS— Continued.

City Reports for Week Ended Apr. 17, 1920—Continued.

City.	Popula- tion as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Concord, N. H.	22,858	8	1		38					1
Connellsville, Pa.	15,876				2		2			
Corpus Christi, Tex.	10,789	4			4					
Cortland, N. Y.	13,321	5	1				1			
Council Bluffs, Iowa	31,838	14	1		14		6			
Covington, Ky.	59,623	19	4		21	1	12		2	1
Cranston, R. I.	26,773	5			1					
Cumberland, Md.	26,686	8					2		4	
Dallas, Tex.	129,738	30	4		26		2		12	4
Danvers, Mass.	10,037						3			
Danville, Ill.	32,969	8			5					1
Danville, Va.	20,183				1					
Davenport, Iowa.	49,618				29					
Dayton, Ohio.	128,939	39	4		72		3		3	
Decatur, Ill.	41,483	8			29				1	
Dedham, Mass.	10,618	0					1			
Denver, Colo.	268,439	81	15	1	141		15			15
Detroit, Mich.	619,648	286	98	5	129	3	92	2	52	34
Dover, N. H.	13,276	4								
Du Bois, Pa.	14,994				17		5			
Dubuque, Iowa	40,096		1		24					
Duluth, Minn.	97,077	23	1		6		5		3	3
Dunmore, Pa.	21,286						1			
Duquesne, Pa.	20,644		3		3		3		1	
Durham, N. C.	26,160	7								1
East Chicago, Ind.	30,286	13								
East Cleveland, Ohio.	13,864				5		1			
Easthampton, Mass.	10,656	1	1		20		1			1
Easton, Pa.	30,854				2		3			
East Providence, R. I.	18,485		1							
East St. Louis, Ill.	77,312	16	2		9		2	1	2	2
Eau Claire, Wis.	18,887				18		3			
Elgin, Ill.	28,562	5			13		4			
Elizabeth, N. J.	88,830		5		70		5		5	
Elkhart, Ind.	22,273	6					9			
Elmira, N. Y.	38,272	8			24					
El Paso, Tex.	69,149	50		1		1	1			10
Elwood, Ind.	11,028	3					1			
Englewood, N. J.	12,603	2	2		8		1			
Erie, Pa.	76,592		3		15		12			
Eureka, Calif.	15,142	2								
Evanston, Ill.	29,394	8	1		1		2			
Everett, Mass.	40,160	13	2	1	36				1	2
Everett, Wash.	37,205				5		1			
Fairmont, W. Va.	16,111		1		10		1			
Fall River, Mass.	129,828	25	3		4		3		6	1
Fargo, N. Dak.	17,872	5			2		3			
Farrell, Pa.	10,190				3					
Findlay, Ohio.	14,858	7			4		3			1
Flint, Mich.	57,386	20	6	1	1		6			1
Fond du Lac, Wis.	21,486		1							
Fort Dodge, Iowa.	21,039	0								
Fort Scott, Kans.	10,564	1			4		1			
Fort Smith, Ark.	29,390		1		3		1			
Fort Wayne, Ind.	78,014	22	2		25		20		2	2
Fort Worth, Tex.	109,597	29	4		1		2			
Fostoria, Ohio.	10,959	2			3		1			
Fremont, Nebr.	10,089	3								
Fremont, Ohio.	11,034	5			29		5			
Galesburg, Ill.	24,629	7								
Galveston, Tex.	42,530	12								
Gardner, Mass.	17,534	5								
Gary, Ind.	57,000	11			1		7			1
Glens Falls, N. Y.	17,160	6								1
Gloucester City, N. J.	11,375		1		8				1	
Grand Rapids, Mich.	132,861	28	6		280		4		13	
Granite City, Ill.	45,890	1			19		1		1	1
Great Falls, Mont.	13,948	10	1		22					
Green Bay, Wis.	30,917				4		3		1	
Greenfield, Mass.	12,251	5	2	1	12		1			

1 Population Apr. 15, 1910.

# DIPHThERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS— Continued.

City Reports for Week Ended Apr. 17, 1920—Continued.

City.	Popula- tion as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Greensboro, N. C.	20,171	2								
Greensburg, Pa.	15,881		1		1					
Greenwich, Conn.	19,594	2	1				3			
Haackensack, N. J.	17,412	13			13				1	
Hammond, Ind.	37,016	8	2		14		3			
Harrisburg, Pa.	73,276				3					
Harrison, N. J.	17,345				9		1	1		
Hartford, Conn.	112,831	31	10	2	38		6		2	5
Haverhill, Mass.	49,180	15	5		58		12		4	1
Hazleton, Pa.	28,981				8		6		4	
Hibbing, Minn.	17,550				2					
Highland Park, Mich.	33,859	5	6		39		11			
Hoboken, N. J.	78,324	16			2		2		2	1
Holland, Mich.	13,459	2								
Holyoke, Mass.	66,563	24	2		18		2		3	2
Homestead, Pa.	23,071				6				1	
Hoquiam, Wash.	12,230				1					
Hot Springs, Ark.	17,690	6								1
Huntington, Ind.	10,982	5	1		4				1	1
Huntington, W. Va.	47,686	11	1		2		4	1		2
Hutchinson, Kans.	21,461		1		11		2			
Indianapolis, Ind.	283,622	101	4	1	489		12		8	13
Ironton, Ohio.	14,079	2			1					
Ironwood, Mich.	15,095	6			1		2			
Irrington, N. J.	16,710				15		2		3	
Ishpeming, Mich.	12,448	0								
Ithaca, N. Y.	16,017	9			1					
Jacksonville, Ill.	15,506	11			5					1
Jamestown, N. Y.	37,431	13	3		5				6	
Janesville, Wis.	14,411				10		2			
Jefferson City, Mo.	13,712	4								1
Jersey City, N. J.	312,557		16		103		7		11	
Johnstown, Pa.	70,437	2	2		3		5		4	
Kalamazoo, Mich.	50,408	36	1		31		6		3	3
Kankakee, Ill.	14,270	4								
Kansas City, Kans.	102,096		3		41		3		4	
Kansas City, Mo.	305,816	100	6	1	45		12		10	11
Kearney, N. J.	21,325	8	1		69				2	
Keene, N. H.	10,725	3					1		1	
Kenosha, Wis.	32,833		1		3		1			
Kewanee, Ill.	13,607	7	1							1
Knoxville, Tenn.	59,112		2		19	1	9		3	3
Kokomo, Ind.	21,929	8			20		2			2
Lackawanna, N. Y.	16,219	2	1		1		1		1	
La Crosse, Wis.	31,833		2		12		1			
La Fayette, Ind.	21,481	7	2		37		4			
Lake Charles, La.	14,930	2								
Lancaster, Ohio.	16,086	4								
Lancaster, Pa.	51,437		6		19				4	
La Salle, Ill.	12,332	2			9					
Lawrence, Kans.	13,477	6			8					1
Lawrence, Mass.	102,923	17	5		2		3		4	
Leavenworth, Kans.	19,363	5					1			
Lebanon, Pa.	20,947				1		1			
Lexington, Ky.	41,997	12	1		1		1			3
Lima, Ohio.	37,145	10	3		22		2			
Lincoln, Neb.	46,957	15	4		63		4			1
Little Rock, Ark.	58,716				13				1	
Lockport, N. Y.	20,028	5					1		5	1
Logansport, Ind.	21,338	6			1	1	3			1
Long Beach, Calif.	29,163	15			15		4			1
Long Branch, N. J.	15,733	2			1				1	
Lorain, Ohio.	38,266				1		2			
Los Angeles, Calif.	535,483	147	39		61		10		106	29
Louisville, Ky.	240,808	62	7		26		6		5	6
Lynchburg, Va.	53,497	6	1				1		1	
Lynn, Mass.	104,534	28	5	1			14		7	5
McKeesport, Pa.	48,299				29		2			
McKees Rocks, Pa.	20,795				12		2			
Macon, Ga.	46,069				19					
Madison, Wis.	31,315				2		2			

<sup>1</sup> Population Apr. 15, 1910.

# DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS— Continued.

City Reports for Week Ended Apr. 17, 1920—Continued.

City.	Popula- tion as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Malden, Mass.	52,243	11	1	.....	35	.....	6	.....	4	2
Manchester, Conn.	15,859	1	.....	.....	.....	.....	2	.....	.....	.....
Manchester, N. H.	79,607	17	12	.....	18	.....	4	.....	5	.....
Mankato, Minn.	10,365	2	.....	.....	3	.....	.....	.....	.....	.....
Marinette, Wis.	14,610	.....	.....	.....	.....	.....	2	.....	.....	.....
Marion, Ind.	19,923	8	.....	.....	6	.....	.....	.....	1	.....
Marion, Ohio.	24,129	.....	3	1	9	.....	1	.....	.....	.....
Marlboro, Mass.	15,285	3	.....	.....	.....	.....	.....	.....	1	.....
Marquette, Mich.	12,555	4	.....	.....	4	.....	1	.....	.....	.....
Martinsburg, W. Va.	12,984	.....	2	.....	.....	.....	.....	.....	.....	.....
Mason City, Iowa	14,938	4	.....	.....	.....	.....	1	.....	.....	.....
Meadville, Pa.	13,968	.....	.....	.....	1	.....	2	.....	.....	.....
Medford, Mass.	26,681	8	.....	.....	5	.....	1	.....	.....	.....
Melrose, Mass.	17,724	6	.....	.....	21	.....	.....	.....	1	1
Memphis, Tenn.	151,877	67	3	1	.....	.....	8	.....	17	4
Meriden, Conn.	29,431	1	.....	.....	.....	.....	1	.....	.....	.....
Methuen, Mass.	14,320	2	1	.....	3	.....	.....	.....	1	.....
Middletown, N. Y.	15,820	.....	3	1	4	.....	2	.....	.....	.....
Middletown, Ohio.	16,384	5	.....	.....	2	1	.....	.....	2	.....
Milwaukee, Wis.	445,008	121	16	.....	140	.....	29	.....	22	13
Minneapolis, Minn.	373,448	93	8	.....	103	.....	19	.....	28	12
Mishawaka, Ind.	17,083	1	.....	.....	.....	.....	.....	.....	.....	.....
Missoula, Mont.	19,075	6	.....	.....	1	.....	1	.....	.....	.....
Mobile, Ala.	59,201	31	2	.....	.....	.....	1	.....	.....	3
Monessen, Pa.	23,070	.....	1	.....	.....	.....	1	.....	.....	.....
Monmouth, Ill.	10,346	8	.....	.....	.....	.....	.....	.....	.....	.....
Montgomery, Ala.	44,039	14	.....	.....	.....	.....	.....	.....	1	.....
Morgantown, W. Va.	14,444	2	1	.....	.....	.....	.....	.....	.....	.....
Morristown, N. J.	13,410	9	.....	.....	.....	.....	.....	.....	.....	.....
Moundsville, W. Va.	11,513	4	1	1	1	.....	.....	.....	.....	.....
Mount Carmel, Pa.	20,709	.....	1	.....	4	.....	.....	.....	1	.....
Mount Vernon, N. Y.	37,991	13	.....	.....	26	.....	1	.....	2	1
Muncie, Ind.	25,653	12	3	.....	5	.....	3	.....	2	1
Muscatine, Iowa	17,713	4	.....	.....	.....	.....	.....	.....	.....	.....
Muskogee, Okla.	47,173	.....	.....	.....	46	.....	.....	.....	.....	.....
Nashville, Tenn.	118,136	34	.....	.....	9	.....	9	.....	3	5
New Bedford, Mass.	121,622	33	.....	.....	.....	.....	13	.....	12	1
New Britain, Conn.	55,385	15	4	1	1	.....	4	.....	.....	1
New Brunswick, N. J.	25,855	1	.....	.....	.....	.....	.....	.....	2	.....
Newburyport, Mass.	15,291	6	1	.....	.....	.....	2	.....	2	.....
New Castle, Ind.	14,144	6	.....	.....	.....	.....	.....	.....	1	1
New Castle, Pa.	41,915	.....	3	.....	32	.....	9	.....	4	.....
New Haven, Conn.	152,275	49	9	.....	21	3	12	.....	19	3
New London, Conn.	21,199	.....	.....	.....	63	.....	.....	.....	1	.....
New Orleans, La.	377,010	116	2	.....	1	.....	3	.....	30	21
New Philadelphia, Ohio	10,133	.....	.....	.....	.....	.....	2	.....	1	.....
Newport, R. I.	30,585	1	.....	.....	40	.....	1	.....	.....	.....
Newton, Mass.	44,343	11	2	1	105	.....	4	.....	1	.....
New York, N. Y.	5,737,492	1,533	321	24	1,304	45	140	5	292	141
Niagara Falls, N. Y.	38,466	13	2	1	73	1	6	.....	7	1
Norfolk, Va.	91,148	.....	1	.....	13	.....	1	.....	.....	2
North Adams, Mass.	22,019	8	1	.....	.....	.....	.....	.....	2	1
Northampton, Mass.	20,005	9	.....	.....	2	.....	2	.....	.....	.....
North Attleboro, Mass.	11,248	3	.....	.....	.....	.....	.....	.....	.....	.....
North Braddock, Pa.	15,684	.....	.....	.....	1	.....	.....	.....	.....	.....
North Little Rock, Ark.	15,515	.....	.....	.....	.....	.....	2	.....	.....	.....
North Tonawanda, N. Y.	14,060	3	1	.....	.....	.....	1	.....	2	1
Norwalk, Conn.	27,332	5	.....	.....	1	.....	.....	.....	.....	.....
Norwich, Conn.	21,923	5	.....	.....	5	.....	2	.....	.....	.....
Norwood, Ohio.	23,269	6	1	.....	5	.....	3	.....	1	.....
Oakland, Calif.	296,405	41	6	2	1	1	5	.....	7	1
Oak Park, Ill.	27,816	14	.....	.....	7	.....	3	.....	2	.....
Oil City, Pa.	20,162	.....	2	.....	4	.....	18	.....	.....	.....
Oklahoma City, Okla.	97,588	22	2	.....	26	.....	2	.....	.....	1
Old Forge, Pa.	15,479	.....	.....	.....	.....	.....	1	.....	.....	.....
Olean, N. Y.	16,927	6	.....	.....	.....	.....	.....	.....	.....	.....
Omaha, Nebr.	177,777	54	3	1	65	.....	24	.....	.....	3
Orange, Conn.	14,393	8	.....	.....	3	.....	3	.....	1	3
Orange, N. J.	33,636	13	1	.....	10	.....	1	.....	2	1
Oshkosh, Wis.	36,549	.....	.....	.....	27	.....	1	.....	.....	.....
Paducah, Ky.	25,178	.....	.....	.....	12	.....	.....	.....	.....	.....

<sup>1</sup> Population Apr. 15, 1910.

# DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS— Continued.

City Reports for Week Ended Apr. 17, 1920—Continued.

City.	Popula- tion as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Parkersburg, W. Va.	21,059	5			30					
Pasadena, Calif.	49,620	16			65				3	2
Passaic, N. J.	74,478	28			32				5	3
Pawtucket, R. I.	60,666	22	2		2	2	5			
Peekskill, N. Y.	19,034	5								
Pekin, Ill.	10,973				1					
Peoria, Ill.	72,184	26			5		2			3
Perth Amboy, N. J.	42,646	11	2		5		4		1	3
Petersburg, Va.	25,817	4								
Philadelphia, Pa.	1,735,514	534	53	7	599	9	81	8	78	58
Phillipsburg, N. J.	15,879	2								1
Piqua, Ohio	14,275	4			6					
Pittsburgh, Pa.	586,196	17			523		19		35	
Pittsfield, Mass.	39,678	17	4		1		1		2	4
Pittston, Pa.	18,975	5	1		2				1	
Plainfield, N. J.	24,330	5	3		1					2
Plattsburg, N. Y.	13,111	4			11		1			
Plymouth, Mass.	14,001	8								
Plymouth, Pa.	19,439						1			
Port Huron, Mich.	118,863	8	5		4					
Portland, Me.	64,720	20			1		4			2
Portland, Oreg.	308,399	60	1	1	48		9		13	2
Portsmouth, N. H.	11,730		3		9					
Portsmouth, Ohio	29,356	12			18		1		2	1
Portsmouth, Va.	40,653	16							1	2
Pottstown, Pa.	16,987		1		9					
Pottsville, Pa.	22,717		1							
Poughkeepsie, N. Y.	30,786	8			7		1		1	
Providence, R. I.	259,895	62	13		36	2	4			3
Pueblo, Colo.	56,084	13			19				1	
Quincy, Ill.	36,832	10			2		3			
Quincy, Mass.	39,022	9					7		1	
Racine, Wis.	47,465				16		3			
Rahway, N. J.	10,331	1			5		3			
Raleigh, N. C.	20,274	9			5		1			2
Reading, Pa.	111,697		1		2		3		1	
Redlands, Calif.	14,573	3								1
Reno, Nev.	15,514	4			11					
Richmond, Ind.	25,080	4							2	
Richmond, Va.	158,702	54			118		4		5	4
Riverside, Calif.	20,496	7			5				1	
Roanoke, Va.	46,282	5	1		2		2	1		2
Rochester, N. Y.	264,714	53	19	1	91	1	7		9	3
Rockford, Ill.	56,739	13	6		3		7			1
Rock Island, Ill.	29,452	6			33		4		1	2
Rocky Mount, N. C.	12,673	3								1
Rome, Ga.	15,607		5				2			
Rome, N. Y.	24,259				1		4		1	
Rutland, Vt.	15,038	6			14					
Sacramento, Calif.	68,984	27	2		1	1	1		2	3
St. Cloud, Minn.	12,013				2		1			
St. Joseph, Mo.	86,498	27	1				2			1
St. Louis, Mo.	768,650	224	47	2	452	5	35		63	19
St. Paul, Minn.	252,465	66	22	3	55		10		9	4
Salem, Mass.	49,346	17	7		4		2		1	1
Salt Lake City, Utah	121,623	31	2		9		1		1	3
San Bernardino, Calif.	17,616	9					1			1
San Diego, Calif.	56,412	21					2		14	4
Sandusky, Ohio	20,226	4			8		3		1	
Sanford, Me.	11,217	6								
San Francisco, Calif.	471,023	141	23	1	24		13	2	34	19
Santa Barbara, Calif.	15,360	6								2
Santa Cruz, Calif.	15,150	2								
Saratoga Springs, N. Y.	13,839	2	1							
Saugus, Mass.	10,210	1	1							
Sault Ste. Marie, Mich.	14,130	2								
Savannah, Ga.	69,250	33			5		1			5
Schenectady, N. Y.	193,774	19			18		4		2	2
Seranton, Pa.	149,541		2		10		1		1	
Seattle, Wash.	336,445		4		80		18			
Shamokin, Pa.	21,274				2					
Sharon, Pa.	19,156				19		2			

<sup>1</sup> Population Apr. 15, 1910.



# DIPHThERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS— Continued.

City Reports for Week Ended Apr. 17, 1920.—Continued.

City.	Popula- tion as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Sheboygan, Wis.	28,907		1		10		5			
Shenandoah, Pa.	29,753		2				1			
Sioux City, Iowa	58,568						7			
Sioux Falls, S. Dak.	16,887	6			20		2		3	
Somerville, Mass.	88,618	21	1	1	62		8		1	2
South Bend, Ind.	70,967	18	2		21		4			
Southbridge, Mass.	14,465	1								
Spartanburg, S. C.	21,985	4					1			
Spokane, Wash.	157,656		2		131					
Springfield, Ill.	62,623	20					4			
Springfield, Mass.	108,668	29	1	2	43	1	5		12	
Springfield, Mo.	41,169	10								
Springfield, Ohio	52,296	14			66		5		3	1
Stamford, Conn.	31,810				11				1	
Staunton, Va.	11,823	6								
Steelton, Pa.	15,759				3				1	
Steubenville, Ohio	28,259	11	1		7				1	
Stillwater, Minn.	10,198	2							2	
Stockton, Calif.	36,209	13	2		2					2
Sunbury, Pa.	16,661				38		2			
Superior, Wis.	47,167	9			6	1				2
Syracuse, N. Y.	158,559	53	4		21		7		4	3
Tacoma, Wash.	117,446		1		31		1			
Taunton, Mass.	36,610	18							2	3
Terre Haute, Ind.	67,361	23	1		39		2		1	2
Toledo, Ohio	202,010	66	1		68	3	14		7	2
Topeka, Kans.	49,538	24	1		55		3		3	2
Traverse City, Mich.	14,090	6			3					1
Trenton, N. J.	113,974	39	5	1	3		3		6	2
Troy, N. Y.	78,094	11	2							1
Tucson, Ariz.	17,324	16								
Tuscaloosa, Ala.	10,824		1		1				1	
Uniontown, Pa.	21,600				11		2			
Vallejo, Calif.	13,803	2	2							
Vancouver, Wash.	13,805				2		5			
Vicksburg, Miss.	23,179		2						1	
Waco, Tex.	34,015	13	1				1			2
Wakefield, Mass.	12,947	2	1		1		1			
Waltham, Mass.	31,011	12	3	2	1				1	1
Warren, Pa.	15,083	1			3					
Washington, D. C.	369,282	127	23	1	20		19	1	30	14
Washington, Pa.	22,076				14		2		11	
Waterbury, Conn.	89,201		6		5		25		3	1
Watertown, Mass.	15,188	4			11		2		1	
Watertown, N. Y.	30,404				5		8			
Wausau, Wis.	19,666	4			27		1			
West Chester, Pa.	13,403		1		1					
Westfield, Mass.	18,769	4			3					
West Hoboken, N. J.	44,386	6	2		15		2		1	2
West New York, N. J.	19,613	5			8					1
West Orange, N. J.	13,964	1	2		2					
Wheeling, W. Va.	43,657	25	2		83		3		3	3
White Plains, N. Y.	23,331	6			19		1		4	2
Wichita, Kans.	73,597	19	2		2		1			2
Wilkes-Barre, Pa.	78,334		7		1		10			
Wilkinsburg, Pa.	23,899				13		1			
Williamsport, Pa.	34,123		4		83		1			
Williamsville, Conn.	12,902	7							2	2
Wilmington, Del.	95,389	36	4	2	23		2		4	
Wilmington, N. C.	30,400	12			1				2	1
Winchester, Mass.	10,812	2			1		3			
Winona, Minn.	18,583	6			1		2			1
Winston-Salem, N. C.	33,136	17	3		9				2	1
Winthrop, Mass.	13,105	2			10		1			
Woburn, Mass.	16,076	5								
Yakima, Wash.	22,058				13		3			
Yonkers, N. Y.	103,066	13	2		46		3		9	1
York, Pa.	52,770		4				23		1	
Zanesville, Ohio	31,320	12	1		5		3			2

1 Population Apr. 15, 1910.



## FOREIGN AND INSULAR.

### PLAGUE ON VESSEL.

Steamship "*Espana*"—At Las Palmas, Canary Islands.

Under date of March 22, 1920, the steamship *Espana*, from Buenos Aires, Argentina, with a cargo of wheat, was reported at Las Palmas, Canary Islands, as quarantined on account of plague occurring on board en route. The *Espana* left Buenos Aires February 16. The vessel was reported March 16 at Malaga, Spain, en route to Mahon, Island of Minorca.

### CHINA.

#### Cerebrospinal Meningitis.

Under date of March 21, 1920, a number of cases of cerebrospinal meningitis were reported at Shanghai, China, and the disease was stated to have been present at Shanghai since November, 1919. Cerebrospinal meningitis was also stated to be present in many localities in the Yangtse Valley and in the vicinity of Nanking, and to have reached epidemic proportions in Kashing.

### CUBA.

#### Communicable Diseases—Habana.

Communicable diseases have been notified in Habana as follows:

Disease.	Apr. 11-20, 1920.		Remain- ing under treatment, Apr. 20, 1920.
	New cases.	Deaths.	
Bronchopneumonia.....	3	2	.....
Cerebrospinal meningitis.....	2	1	19
Chicken pox.....	8	.....	38
Diphtheria.....	3	1	2
Influenza.....	15	1	.....
Leprosy.....	.....	.....	10
Malaria.....	3	.....	219
Measles.....	72	3	87
Paratyphoid fever.....	1	1	2
Pneumonia.....	.....	1	.....
Scarlet fever.....	7	.....	14
Typhoid fever.....	11	3	40

<sup>1</sup> From abroad, 5.

<sup>2</sup> From the interior, 12.

<sup>3</sup> From the interior, 24; from abroad, 1.

## INDIA.

## Mortality—January-March, 1919.

The Abstract of Vital Statistics for British India for the quarter ended March 31, 1919, gives the following figures relative to general mortality and mortality from certain diseases registered in the towns and districts of the Provinces of British India:

*Assam.*—In 24 towns having an aggregate population of 140,699, 1,389 deaths were reported; in districts having a population of 6,105,631, 83,981 deaths were reported. Mortality for the corresponding period of the year 1918 was, for towns, 634, and for districts, 36,991. The principal causes of death were:

	Towns.	Districts.		Towns.	Districts.
Cholera.....	303	8,581	Fevers (not specified).....	161	32,131
Smallpox.....	2	227	Respiratory diseases.....	416	27,843

The figures for mortality from respiratory diseases, viz, 27,843, as compared with figures reported for the corresponding period of 1918, viz, 2,055, show the prevalence of an epidemic disease in the first quarter of 1919.

*Bengal Presidency.*—In 72 towns having an aggregate population of 2,618,159 there were registered 26,083 deaths; in districts there were registered 480,202 deaths, corresponding to an annual rate of 44.9. The principal causes of death were:

	Towns.	Districts.		Towns.	Districts.
Cholera.....	2,989	40,921	Fevers (not specified).....	8,534	377,609
Smallpox.....	1,015	4,469	Respiratory diseases.....	5,182	2,542

*Bihar and Orissa.*—In 56 towns, having an aggregate population of 1,194,785, 8,889 deaths were reported; in districts, having a population of 33,295,061, 353,178 deaths were registered. The principal causes of death were:

	Towns.	Districts.		Towns.	Districts.
Cholera.....	574	9,222	Plague.....	668	11,204
Dysentery and diarrhea.....	509	8,326	Fevers (not specified).....	4,364	267,622
Smallpox.....	105	1,726	Respiratory diseases.....	316	2,386

The month of January furnished the highest mortality; in March cholera and smallpox were stated to have increased.

*Bombay Presidency.*—In 57 towns, having an aggregate population of 1,992,464, 21,696 deaths were reported, of which number 13,641 were notified in the city of Bombay. In the districts, having a

population of 16,723,883, 133,244 deaths were recorded. The principal causes of death were:

	Bombay City.	Other towns.	Districts.
Cholera.....	8,194	277	4,204
Smallpox.....	235	181	1,243
Plague.....	127	391	1,561
Fevers (not specified).....	1,124	2,355	79,619
Dysentery and diarrhea.....	1,124	268	3,519
Respiratory diseases.....	5,863	700	15,879

There was a serious epidemic of cholera in Bombay City during January and February, 1919. The chief causes of mortality in the districts were fevers and respiratory diseases. These diseases were especially prevalent in January, and were probably due to the wind-up of the influenza epidemic.

*Burma.*—In 62 towns, having an aggregate population of 1,134,948, there were registered 14,968 deaths; in districts, 70,234 deaths were registered, equal to an annual death rate of 32.27 per 1,000 of population. The principal causes of death were:

	Towns.	Districts.		Towns.	Districts.
Cholera.....	477	2,573	Fevers (not specified).....	3,227	37,409
Smallpox.....	1,062	277	Dysentery and diarrhea.....	776	1,459
Plague.....	1,693	843	Respiratory diseases.....	1,807	961

*Central Provinces.*—In 110 towns having an aggregate population of 1,277,721 there were reported 11,446 deaths, as against 13,678 deaths reported in the corresponding quarter of 1918. In the districts, having a population of 12,638,587, 123,901 deaths were registered, as against 113,339 deaths for the corresponding period of 1918. The excess of deaths in 1919 was accounted for by heavy mortality in January, due to the continued prevalence of influenza. The principal causes of death were:

	Towns.		Districts.	
	1918	1919	1918	1919
Cholera.....		99	15	951
Smallpox.....	88	566	478	2,068
Plague.....	3,791	724	5,472	728
Fevers (not specified).....	2,949	3,745	54,117	78,495
Respiratory diseases.....	1,907	1,655	12,708	8,758

The figures quoted show (a) excess in 1919 of cholera and smallpox; (b) diminished prevalence of plague; (c) high mortality from fevers, especially in January; (d) high mortality from respiratory diseases in 1918.

*Coorg.*—In Coorg, the smallest of the Provinces of British India, 1,012 deaths were registered during the period under report, corresponding to an annual rate of 23.1 per 1,000. The principal causes of death were:

Cholera.....	26
Smallpox.....	119
Measles.....	23
Fevers (not specified).....	647
Influenza.....	30

The influenza mortality was confined to January.

*Delhi.*—In Delhi city, having a population of 225,471, there were registered 2,227 deaths, as against 2,340 registered in the corresponding period of 1918. In Delhi district 1,350 deaths were registered, as against 1,200 registered in the corresponding period of 1918. (Population of the district, 191,185.) The principal causes of death were:

	City.	District.		City.	District.
Smallpox.....	4	31	Respiratory diseases.....	650	286
Fevers (not specified).....	1,018	990			

*Madras Presidency.*—In 73 towns having an aggregate population of 2,783,373 there were registered 30,031 deaths, as against 30,567 in the corresponding quarter of the previous year. In districts having a population of 37,263,178 there were registered 248,564 deaths. The principal causes of death were:

	Towns.		Districts.	
	1918	1919	1918	1919
Cholera.....	1,980	2,254	30,042	30,027
Dysentery and diarrhea.....	3,802	4,341	17,559	14,069
Smallpox.....	2,162	1,959	16,833	13,252
Plague.....	1,681	723	7,087	1,960
Fevers (not specified).....	3,275	3,790	73,876	85,481
Respiratory diseases.....	2,497	2,624	12,730	9,141

*Northwest Frontier Province.*—In the 13 towns and areas of notification of this Province, having an aggregate population of 191,245, there were registered 1,316 deaths, as against 1,385 deaths registered in the corresponding period of the preceding year. In the districts, 14,194 deaths were registered, as against 13,795 in the corresponding period 1918; annual rates, 30.7 and 29.8, respectively. The highest mortality was recorded in the month of January. The principal causes of death were:

	Towns.	Districts.		Towns.	Districts.
Smallpox.....	76	35	Respiratory diseases.....	223	93
Fevers (not specified).....	702	12,934			

*Punjab.*—In 17 towns having an aggregate population of 899,275, 6,543 deaths were registered, as compared with 10,215 in 1918. In districts, with a population of 18,437,871, there were recorded 123,059 deaths, as against 179,336 in 1918. The principal causes of death were:

	Towns.		Districts.	
	1918	1919	1918	1919
Smallpox.....	114	549	249	2,910
Fevers (not specified).....	3,556	2,520	106,512	90,244
Plague.....	2,200	27	34,835	2,393
Respiratory diseases.....	2,034	1,819	11,079	7,828

*United Provinces.*—In 83 towns having an aggregate population of 2,872,132, there were registered 25,008 deaths as compared with 41,314 deaths registered in the corresponding period of 1918. In districts having a population of 43,948,424, there were registered 643,930 deaths, as compared with 509,158 in 1918. Over one-half the reported mortality occurred in January and was probably due to the unspent force of the influenza epidemic of the year 1918. The principal causes of death were:

	Towns.		Districts.	
	1918	1919	1918	1919
Cholera.....	64	34	767	119
Dysentery and diarrhea.....	1,889	1,491	1,780	785
Smallpox.....	72	1,636	250	1,332
Plague.....	7,970	181	126,945	10,582
Fevers (not specified).....	17,862	11,044	325,542	586,884
Respiratory diseases.....	5,432	4,181	2,957	3,041

### INFLUENZA.

The following information was taken from reports received during the week ended May 7, 1920:

Place.	Date.	Cases.	Deaths.	Remarks.
Algeria:				
Algiers.....	Mar. 21-31.....	1	.....	City of Algiers, cases, 11; deaths, 7. Military.
Oran.....	do.....	10	.....	
South Territories.....	do.....	9	.....	
Bolivia:				
La Paz.....	Mar. 14-20.....	5	.....	
Canada:				
Manitoba—				
Winnipeg.....	Mar. 28-Apr.10....	5	1	
Ontario—				
Toronto.....	Apr. 18-24.....	.....	2	Acute primary pneumonia, 25 deaths.
Yukon—				
White Horse.....	Mar. 1-31.....	.....	.....	Present in mild form. Among Indians, 2 deaths.
Denmark:				
Copenhagen.....	Mar. 14-20.....	648	16	

## INFLUENZA—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
France:				
Bordeaux.....	Mar. 8-Apr. 4.....		5	Pneumonia, 25 deaths.
Paris.....	Feb. 20-29.....		37	
Gibraltar.....	Mar. 28-Apr. 3.....			Present.
Great Britain:				
England and Wales.....	.....do.....		379	In 96 great towns. Population, 16,577,344.
Do.....	Apr. 4-10.....		332	Do.
London.....	Mar. 28-Apr. 3.....		124	Greater London and Outer Ring, deaths, 320.
Do.....	Apr. 4-10.....		105	Greater London and Outer Ring, deaths, 247.
Mexico:				
Vera Cruz.....	Mar. 29-Apr. 4.....		10	
Spain:				
Huelva.....	Feb. 1-29.....		9	Present but not epidemic Mar. 30.
Valencia.....	Mar. 28-Apr. 3.....			Present.
Sweden:				
Gottenborg.....	Mar. 14-27.....	283		
Malmo.....	Mar. 21-27.....	178	13	
Stockholm.....	Mar. 7-20.....	128	39	
Switzerland:				
Zurich.....	Mar. 14-27.....	93	7	

## CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER.

Reports Received During Week Ended May 7, 1920.<sup>1</sup>

## CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India.....				Feb. 15-21, 1920: Deaths, 1,555.
Calcutta.....	Feb. 29-Mar. 6.....	75	73	
Madras.....	Mar. 14-20.....	3	1	
Java:				
East Java.....				Feb. 8-14, 1920: Cases, 1; deaths, 1.
Surabaya.....	Feb. 8-14.....	1	1	
West Java.....	Feb. 21-27.....	1	1	
Philippine Islands:				
Provinces.....				Mar. 14-20, 1920: Cases, 3; deaths, 1.
Albay.....	Mar. 14-20.....	2	1	
Occidental Negros.....	do.....	1		
Straits Settlements:				
Singapore.....	Feb. 29-Mar. 6.....	2	2	

## PLAGUE.

Ecuador:				
Guayaquil.....	Mar. 1-31.....	14	4	
Egypt:				Jan. 1-Mar. 18, 1920: Cases, 93; deaths, 36.
Cities—				
Suez.....	Mar. 15.....	1		
Provinces—				
Assiout.....	Mar. 11-16.....	4	4	
Minieh.....	Mar. 11-14.....	6	4	
India.....				Feb. 29-Mar. 6, 1920: Cases, 5,896; deaths, 4,574.
Bombay.....	Feb. 29-Mar. 6.....	4	4	
Madras Presidency.....	Mar. 14-20.....	231	181	
Java:				
East Java.....				Jan. 29-Mar. 6, 1920: Cases, 39; deaths, 36.
Surabaya.....	Jan. 29-Mar. 6.....	39	36	
Straits Settlements:				
Singapore.....	Feb. 29-Mar. 6.....	6	1	
On vessel:				
S. S. Espana.....	Mar. 22.....			Reported at Las Palmas, Canary Islands; quarantined for plague which occurred on board en route. Vessel left Buenos Aires Feb. 16. Arrived at Malaga, Spain, Mar. 16. Destination, Mahon, Island of Minorca.

<sup>1</sup> From medical officers of the Public Health Service, American consuls, and other sources.



# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received During Week Ended May 7, 1920—Continued.**

## **SMALLPOX.**

Place.	Date.	Cases.	Deaths.	Remarks.
Algeria:				
Departments—				
Algiers.....	Mar. 1-31.....	2		Mar. 21-31, 1920: Cases, 7.
Constantine.....	do.....	1		
Oran.....	do.....	34		
South Territories.....	do.....	6		
Belgium:				
Brussels.....	Feb. 8-14.....		1	
Bolivia:				
La Paz.....	Mar. 14-20.....	3		
Canada:				
Manitoba—				
Winnipeg.....	Mar. 28-Apr. 10.....	5		
Ontario—				
Fort William and Port Arthur.....	Apr. 18-24.....	1		
Hamilton.....	do.....	1		
North Bay.....	do.....	1		
Toronto.....	do.....	6		
Quebec—				
Montreal.....	Apr. 11-24.....	7		
Saskatchewan—				
Moosejaw.....	Apr. 11-17.....	1		
China:				
Amoy.....	Feb. 15-Mar. 13.....	11		
Chungking.....	Feb. 29-Mar. 6.....			Present.
Nanking.....	Mar. 7-13.....			Do.
Colombia:				
Barranquilla.....	Mar. 7-Apr. 10.....			Present, with about 150 estimated cases.
Egypt:				
Alexandria.....	Mar. 11-25.....	50	19	
Cairo.....	Feb. 5-11.....	9	4	
Port Said.....	do.....	2	1	
Finland:				
Provinces—				
Tavastehus.....	Dec. 16-31.....	8		Dec. 16-31, 1920: Cases, 10.
Vasa.....	do.....	2		In districts.
India:				
Bombay.....	Feb. 29-Mar. 6.....	32	11	Do.
Calcutta.....	do.....	217	185	Feb. 15-21, 1920: Deaths, 1,359.
Karachi.....	Mar. 7-13.....	3	3	
Italy:				
Messina.....	Mar. 15-21.....	1	1	Province: Cases, 21.
Japan:				
Taiwan.....	Mar. 1-10.....	77	25	Entire island.
Yokohama.....	Mar. 15-26.....	13	8	
Java:				
East Java.....				Feb. 8-14, 1920: Cases, 1.
West Java.....				Feb. 20-27, 1920: Cases, 90;
Batavia.....	Feb. 20-27.....	2	2	deaths, 20.
Manchuria:				
Mukden.....	Feb. 29-Mar. 13.....			Present.
Mexico:				
Vera Cruz.....	Apr. 12-18.....	1		
Newfoundland—				
St. John.....	Apr. 3-9.....	1		
Portuguese East Africa				
Lourenco Marques.....	Feb. 29-Mar. 6.....	1		Apr. 16: At two outposts.
Siberia:				
Vladivostok.....	Aug. 1-Dec. 15.....	10	3	Present in interior: Feb. 29-Mar. 13, 1920.
Do.....	Jan. 1-31.....	8	8	
Spain:				
Valencia.....	Mar. 28-Apr. 10.....	12	1	
Turkey:				
Constantinople.....	Mar. 21-27.....	1		

## **TYPHUS FEVER.**

Algeria:			
Department—			
Algiers.....	Mar. 21-31.....	1	
Constantine.....	do.....	1	
Oran.....	do.....	23	
South Territories.....	do.....	12	
Bolivia:			
La Paz.....	Mar. 14-20.....	2	4

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received During Week Ended May 7, 1920—Continued.**

## **TYPHUS FEVER—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Chile:				
Valparaiso.....	.....do.....	.....	5	
Egypt:				
Alexandria.....	Mar. 14-25.....	65	18	
Cairo.....	Feb. 5-11.....	13	3	
Japan:				
Nagasaki.....	Mar. 22-28.....	1	.....	
Mexico:				
San Luis Potosi.....	Apr. 12-18.....	.....	.....	Present.
Eiberia:				
Vladivostok.....	Aug. 1-Dec. 15.....	402	44	
Do.....	Jan. 1-31.....	279	22	
Turkey:				
Constantinople.....	Feb. 29-Mar. 27...	68	4	

**Reports Received from Dec. 27, 1919, to Apr. 30, 1920.**

## **CHOLERA.**

Place.	Date.	Cases.	Deaths.	Remarks.
China:				
Amoy.....	Nov. 4-17.....	.....	2	
Chosen (Korea):				
Chemulpo.....	Oct. 1-31.....	6	4	Oct. 20-Nov. 16, 1919: Cases, 3,425; deaths, 3,144. Aug. 15-Nov. 16, 1919: Cases, 15,192; deaths, 9,823.
Fusan.....	.....do.....	34	30	
Provinces—				
Keiki.....	Aug. 15-Nov. 16...	224	135	
Kogen.....	.....do.....	64	38	
Kokai.....	.....do.....	4,015	2,770	
North Chusel.....	.....do.....	1	1	
North Heian.....	.....do.....	3,196	2,434	
North Kankyo.....	.....do.....	497	275	
North Keisho.....	.....do.....	63	35	
North Zenra.....	.....do.....	1,326	692	
South Chusel.....	.....do.....	930	590	
South Heian.....	.....do.....	3,031	1,888	
South Kankyo.....	.....do.....	870	551	
South Keisho.....	.....do.....	318	156	
South Zenra.....	.....do.....	657	288	
Greece:				
Saloniki.....	Oct. 10.....	1	.....	
India:				
Bombay.....	Nov. 2-8.....	1	1	Oct. 19-Dec. 27, 1919: Deaths, 23,388. Jan. 4-Feb. 14, 1920: Deaths, 12,701.
Do.....	Jan. 11-Feb. 21.....	3	2	
Calcutta.....	Oct. 26-Dec. 27.....	181	166	
Do.....	Dec. 28-Feb. 28.....	151	143	
Madras.....	Nov. 23-Dec. 27.....	14	5	
Do.....	Dec. 28-Mar. 13.....	23	10	
Rangoon.....	Nov. 30-Dec. 27.....	12	9	
Do.....	Dec. 28-Feb. 28.....	4	4	
Indo-China:				
Saigon.....	Oct. 27-Nov. 23.....	5	4	
Japan:				
Kobe.....	Nov. 24-30.....	2	.....	
Taiwan.....	.....do.....	.....	.....	
Tokyo.....	Nov. 10-20.....	1	1	For entire island: Oct. 22-Nov. 30, 1919: Cases, 651; deaths, 385.
Java:				
East Java.....	.....do.....	.....	.....	Oct. 5-11, 1919: One case, 1 death. At Paseroean.
West Java.....	.....do.....	.....	.....	Nov. 5-Dec. 25, 1919: Cases, 17.
Batavia.....	Nov. 5-Dec. 25.....	17	.....	Jan. 24-Feb. 12, 1920: Cases, 2.
Do.....	Jan. 21-Feb. 12.....	2	1	
Philippine Islands:				
Manila.....	Nov. 2-Dec. 27.....	20	10	
Provinces:				
Albay.....	Nov. 2-Dec. 27.....	339	240	Nov. 2-Dec. 27, 1919: Cases, 1,574; deaths, 1,151.
Ambos Camarines.....	Nov. 2-Dec. 27.....	66	34	
Antique.....	Nov. 2-Dec. 27.....	160	113	
Batangas.....	.....do.....	39	28	
Bohol.....	.....do.....	34	27	
Cagayan.....	Nov. 3-15.....	35	20	

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from Dec. 27, 1919, to Apr. 30, 1920—Continued.**

## **CHOLERA—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Philippine Islands—Contd.				
Provinces—Continued.				
Capiz.....	Nov. 2-8.....	6	5	
Cavite.....	Nov. 2-Dec. 6.....	25	16	
Cebu.....	Nov. 2-Dec. 20.....	23	14	
Davao.....	Nov. 9-15.....	6	4	
Ilocos Norte.....	Nov. 2-29.....	42	40	
Ilocos Sur.....	Nov. 2-22.....	18	15	
Iloilo.....	Nov. 2-Dec. 20.....	55	33	
Isabela.....	Nov. 2-Dec. 13.....	167	77	
Laguna.....	Nov. 2-Dec. 20.....	23	17	
Mindoro.....	Nov. 2-Dec. 6.....	81	30	
Mountain.....	Nov. 2-Dec. 13.....	6	4	
Occidental Negros.....	Nov. 2-Dec. 27.....	100	53	
Pangasinan.....	Nov. 30-Dec. 20.....	60	46	
Rizal.....	do.....	41	15	
Sorsogon.....	Nov. 2-Dec. 13.....	208	139	
Tarlac.....	Nov. 2-22.....	11	11	
Tayabas.....	Nov. 2-Dec. 27.....	60	35	
Union.....	Nov. 9-15.....	5	5	
Manila.....	Feb. 3-28.....	2		
Provinces.....				
Albay.....	Dec. 28-Mar. 13.....	69	47	Dec. 28, 1919-Mar. 13, 1920: Cases, 874; deaths, 589.
Ambos Camarines.....	Dec. 28-Mar. 6.....	292	589	
Antique.....	do.....	219	60	
Batangas.....	Dec. 28-Feb. 14.....	19	12	
Cavite.....	Jan. 11-17.....	1	1	
Iloilo.....	Dec. 28-Jan. 3.....	9	2	
Ilocos Norte.....	Mar. 7-13.....	1	1	
Isabela.....	Jan. 11-17.....	6	3	
Laguna.....	Dec. 22-Jan. 3.....	2	2	
Mindoro.....	Jan. 4-24.....	24	11	
Mountain.....	Dec. 28-Jan. 10.....	11	6	
Occidental Negros.....	Jan. 4-17.....	21	19	
Palawan.....	Jan. 11-Feb. 28.....	59	37	
Pangasinan.....	Dec. 28-Jan. 3.....	1		
Rizal.....	Feb. 1-7.....	3	3	
Samar.....	Jan. 4-24.....	44	30	
Sorsogon.....	do.....	51	40	
Tayabas.....	Jan. 4-Feb. 28.....	33	19	
Poland:				
Garwolin.....				Present in November, 1919.
Kowal.....				
Stryl.....				
Russia:				
Novorossisk.....	Nov. 8-11.....	3		
Odessa.....	Oct. 25-Nov. 7.....	93		
Siam:				
Bangkok.....	Dec. 7-27.....	163	57	Oct. 5-Dec. 15, 1919: Deaths, 1,080.
Do.....	Dec. 28-Mar. 6.....	192	91	
Straits Settlements:				
Singapore.....	Oct. 5-Dec. 27.....	15	14	
Do.....	Dec. 28-Jan. 17.....	4	2	
Sumatra:				
Deli.....	Oct. 1-31.....	1	1	
Medan.....	Nov. 1-30.....	1	1	

## **PLAGUE.**

Argentina:				
Rosario.....	Dec. 1-31.....		7	
Brazil:				
Bahia.....	Nov. 9-15.....	1	1	
Do.....	Jan. 25-Mar. 6.....	5	3	
Porto Alegre.....	Nov. 1-30.....		3	
Rio de Janeiro.....	Nov. 2-Dec. 27.....	9	4	
Do.....	Jan. 11-17.....	1		
British East Africa:				
Kisumu.....	Sept. 28-Nov. 1.....	6	6	Dec. 14-20, 1919: Present in vicinity. Feb. 15-21, 1920: Present in vicinity.
Do.....	Feb. 1-7.....	1	1	
Mombasa.....	Feb. 1-21.....	14	14	
Ceylon:				
Colombo.....	Oct. 26-Dec. 27.....	36	35	
Do.....	Dec. 28-Feb. 28.....	45	22	

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from Dec. 27, 1919, to Apr. 30, 1920—Continued.**

## **PLAGUE—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Chile:				
Antofagasta.....	Dec. 8-14.....	1	.....	
Do.....	Feb. 8-14.....	1	.....	
China:				
Hongkong.....	Dec. 7-13.....	1	.....	
Do.....	Feb. 1-7.....	1	1	
Ecuador:				
Guayaquil.....	Nov. 1-31.....	2	.....	
Do.....	Jan. 1-Mar. 15.....	39	5	
Egypt.....				Jan. 1-Dec. 25, 1919: Cases, 867; deaths, 469. Jan. 1-Mar. 11, 1920: Cases, 81; deaths, 48.
Cities—				From vessel Rachid Pacha from Constantinople, Saloniki, and Smyrna.
Alexandria.....	Dec. 3.....	1	1	
Do.....	Feb. 18.....	1	1	
Port Said.....	Feb. 13.....	1	.....	
Suez.....	Feb. 1-Mar. 5.....	3	2	
Provinces—				
Assiout.....	Nov. 15-21.....	30	17	
Do.....	Jan. 13-Mar. 9.....	48	24	
Fayoum.....	Mar. 2.....	1	1	
Girgeh.....	Mar. 4-5.....	3	3	
Minieh.....	Mar. 1-8.....	9	2	
Greece:				
Saloniki.....	Oct. 6-Dec. 21.....	19	7	
Hawaii:				
Kaloa.....	Feb. 23-Mar. 23.....	1	2	
India.....				Oct. 19-Dec. 27, 1919: Cases, 31,542; deaths, 23,443. Dec. 28, 1919-Feb. 21, 1920: Cases, 36,592; deaths, 29,540.
Bombay.....	Oct. 19-Dec. 27.....	6	6	
Do.....	Jan. 4-Feb. 28.....	28	13	
Calcutta.....	Jan. 25-31.....	1	1	
Karachi.....	Nov. 9-29.....	3	2	
Do.....	Jan. 11-Feb. 28.....	3	1	
Madras Presidency.....	Nov. 9-Dec. 27.....	1,068	704	
Do.....	Dec. 28-Mar. 6.....	4,037	2,968	
Madras.....	Jan. 25-Feb. 14.....	4	2	
Rangoon.....	Nov. 2-Dec. 27.....	29	27	
Do.....	Dec. 28-Feb. 28.....	289	275	
Indo-China:				Oct. 19-Nov. 1, 1919: Cases, 10; deaths, 7.
Saigon.....	Oct. 27-Dec. 7.....	11	9	
Do.....	Jan. 26-Feb. 7.....	1	1	
Java:				
East Java.....				
Surabaya.....	Jan. 1-14.....	11	11	Sept. 28-Dec. 31, 1919: Cases, 1,500; deaths, 1,499. Surabaya Residency, Jan. 1-31, 1920: Cases, 25; deaths, 25.
Mesopotamia:				
Bagdad.....	Jan. 8-9.....	1	1	
Peru:				
Callao.....	Nov. 1-30.....	.....	3	
Paiza.....	Dec. 29-Jan. 17.....	23	17	
Salaverry (Trujillo).....	Nov. 23-Dec. 21.....	9	1	
Do.....	Dec. 29-Mar. 14.....	37	20	Present in surrounding country and in vicinity.
Senegal:				
Dakar.....	Nov. 1-30.....	.....	146	Including Dakar and vicinity.
Siam:				
Bangkok.....	Dec. 14-29.....	4	2	
Do.....	Feb. 1-21.....	3	8	
Straits Settlements:				
Singapore.....	Oct. 26-Dec. 27.....	7	6	
Do.....	Jan. 4-Feb. 28.....	10	7	
Syria:				
Beirut.....	Dec. 22.....	29	.....	
Turkey:				
Constantinople.....	Nov. 14-Dec. 20.....	11	.....	Present Dec. 11, 1919. Nov. 14-20, 1919: Present in vicinity.
On vessel:				
S. S. Alps Maru.....	Feb. 28-Mar. 5.....	2	2	At Port of London, England. Vessel left Yokohama, Japan, Dec. 3, 1919; arrived Suez Jan. 21, 1920. Destination, Hamburg.
S. S. Kaiser-i-Hind.....	Nov. 28.....	3	.....	At Port Said, Egypt. From Bombay, Nov. 15, for London.

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from Dec. 27, 1919, to Apr. 30, 1920—Continued.**

## **SMALLPOX.**

Place.	Date.	Cases.	Deaths.	Remarks.
<b>Algeria:</b>				
Department—				
Algiers.....	Nov. 11-Dec. 31....	65	.....	
Do.....	Jan. 1-Mar. 20.....	96	.....	
Constantine.....	Nov. 11-Dec. 31....	15	.....	
Do.....	Jan. 1-Mar. 20.....	40	.....	
Oran.....	Nov. 11-Dec. 31....	90	.....	
Do.....	Jan. 1-Mar. 20.....	149	.....	
South Territory.....	Jan. 1-Mar. 10.....	5	.....	
<b>Arabia:</b>				
Aden.....	Dec. 24-30.....	1	1	
Do.....	Jan. 6-20.....	.....	3	
<b>Argentina:</b>				
Rosario.....	Jan. 1-31.....	.....	1	
<b>Austria:</b>				
Vienna.....	Nov. 23-Jan. 3.....	10	.....	Nov. 23, 1919-Jan. 3, 1920: Cases, 13.
<b>Belgium:</b>				
Brussels.....	Dec. 28-Jan. 31.....	.....	3	
<b>Bolivia:</b>				
La Paz.....	June 29-Dec. 27.....	.....	216	Dec. 29, 1918-June 28, 1919: Cases, 86; deaths, 44. Dec. 14-20, 1919: Cases, 7; deaths, 5.
Do.....	Dec. 28-Mar. 13.....	31	41	
<b>Brazil:</b>				
Bahia.....	Oct. 26-Nov. 22.....	1,704	1,022	
Do.....	Dec. 28-Mar. 6.....	546	392	
Para.....	Feb. 8-Mar. 27.....	8	2	
Pernambuco.....	Nov. 10-Dec. 28.....	123	9	
Do.....	Dec. 29-Jan. 11.....	82	4	
Rio de Janeiro.....	Sept. 28-Dec. 27.....	429	119	
Do.....	Dec. 28-Jan. 17.....	.....	13	
Santos.....	Nov. 24-30.....	.....	1	
Do.....	Jan. 5-18.....	.....	2	
<b>Bulgaria:</b>				
Sofia.....	Feb. 22-Mar. 20.....	5	.....	
<b>Canada:</b>				
British Columbia—				
Vancouver.....	Nov. 30-Dec. 6.....	1	.....	
Do.....	Jan. 4-17.....	1	.....	
Manitoba—				
Winnipeg.....	Jan. 11-Mar. 6.....	6	.....	
New Brunswick—				
Gloucester County.....	Jan. 29-Mar. 13.....	8	.....	Jan.-Mar., 1920: Cases, 14.
Nova Scotia—				
Halifax.....	Dec. 21-27.....	2	.....	
Do.....	Jan. 4-Feb. 14.....	4	.....	
Sydney.....	Dec. 7-13.....	1	.....	
Do.....	Dec. 28-Mar. 27.....	21	.....	
Counties—				
Cumberland.....	Dec. 14-20.....	.....	.....	Present.
Gloucester.....	.....	.....	.....	Oct.-Nov., 1919: Cases, 3.
Inverness.....	Dec. 14-20.....	.....	.....	Present.
Pictou.....	do.....	.....	.....	Do.
<b>Ontario:</b>				
Fort William and Port Arthur.....	Jan. 25-Apr. 3.....	7	.....	Nov. 1-29, 1919: Cases, 1,653.
Hamilton.....	Dec. 14-20.....	3	.....	Nov. 30-Dec. 6, 1919: Cases, 125, in 45 localities, exclusive of Dysart and Toronto. Dec. 1-31, 1919: Cases, 1,414; deaths, 2.
Do.....	Jan. 4-Apr. 17.....	34	.....	Dec. 28, 1919-Mar. 27, 1920, Cases, 2,330; deaths, 35.
Kingston.....	Dec. 21-27.....	1	.....	
Do.....	Dec. 28-Apr. 12.....	15	.....	
North Bay.....	Jan. 11-Apr. 3.....	7	.....	
Ottawa.....	Dec. 14-20.....	1	.....	
Do.....	Dec. 28-Apr. 17.....	29	1	
Peterborough.....	Dec. 21-27.....	3	.....	
Do.....	Dec. 28-Mar. 20.....	50	2	
Prescott.....	Jan. 4-10.....	1	.....	
Sault Ste. Marie.....	Dec. 7-27.....	1	.....	
Do.....	Dec. 28-Jan. 3.....	1	.....	
Toronto.....	Dec. 7-27.....	727	.....	
Do.....	Dec. 28-Apr. 17.....	868	7	
Windsor.....	Dec. 14-27.....	2	.....	
Do.....	Mar. 21-27.....	2	.....	
<b>Prince Edward Island—</b>				
Summerside.....	Feb. 14-20.....	3	.....	In one family.

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from Dec. 27, 1919, to Apr. 30, 1920—Continued.**

## **SMALLPOX—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
<b>Canada—Continued.</b>				
Quebec—				
Bonaventure and Gaspé	Jan. 1-Mar. 31....	43		Counties.
Montreal	Dec. 7-27.....	3		
Do.	Jan. 18-Apr. 3....	22		
Quebec	Dec. 7-27.....	4		
Do.	Jan. 4-Mar. 6....	25		
Saskatchewan—				
Moosejaw	Dec. 28-Apr. 3....	2		
Regina	Mar. 27-Apr. 3....	1		
Saskatoon	Dec. 14-20.....	1		
Do.	Mar. 28-Apr. 3....	1		From Toronto.
Ceylon:				
Colombo	Nov. 16-Dec. 13..	10	9	
Do.	Dec. 28-Mar. 6....	11	2	
China:				
Amoy	Nov. 4-Dec. 22....			Present. Dec. 22: Four deaths.
Do.	Dec. 30-Feb. 6....	1	5	
Canton	Nov. 2-Dec. 27....			Present.
Do.	Dec. 28-Feb. 28..			Do.
Chungsha	Jan. 4-10.....	55		
Chungking	do.....			Do.
Do.	Dec. 28-Feb. 28..			Do.
Foochow	Nov. 16-Dec. 27....			Do.
Do.	Dec. 28-Mar. 6....			Do.
Hankow	Feb. 29-Mar. 6....	1	1	
Hongkong	Jan. 25-31.....	1		
Nanking	Dec. 6-27.....			Do.
Do.	Dec. 28-Mar. 6....			Do.
Shanghai	Dec. 22-28.....	2		
Tientsin	Feb. 1-7.....	1		
Chosen (Korea):				
Chemulpo	Dec. 1-31.....	1	1	
Do.	Jan. 1-Feb. 29....	10	3	
Fusan	Oct. 1-Dec. 31....	12	1	
Do.	Feb. 1-29.....	1		
Seoul	Oct. 1-Dec. 31....	19	4	
Do.	Jan. 1-Feb. 29....	162	44	
Colombia:				
Barranquilla	Nov. 16-Dec. 20..	50	2	
Do.	Jan. 11-Mar. 6....	500	4	Stated to be epidemic, Jan. 18-24; 1920. About 200 cases, Feb. 1-14.
Costa Rica	Mar. 28-Apr. 3....		1	
Cuba:				
Habana	Jan. 31.....	4		Children living in same house.
Czechoslovakia:				
Prague	Feb. 8-Mar. 20....	4	2	
Egypt:				
Alexandria	Nov. 12-Dec. 16..	32	22	
Do.	Jan. 1-Mar. 11....	97	45	
Cairo	Oct. 1-Dec. 23....	64	31	
Do.	Jan. 1-Feb. 4....	24	8	
Port Said	Oct. 1-Dec. 23....	13	6	
Do.	Jan. 1-21.....	28	9	
Finland:				
Provinces				July 16-Dec. 31, 1919: Cases, 83; Jan. 15-31, 1920: Cases, 14.
Abo Oeh Borneborg	Nov. 1-15.....	1		
Nyland	July 16-Dec. 15....	29		
St. Michael	Dec. 1-15.....	7		
Tavastehus	July 16-Dec. 31....	7		
Do.	Jan. 15-31.....	6		
Vasa	Dec. 1-31.....	2		
Do.	Jan. 25-31.....	8		
Viborg	July 16-Dec. 31....	37		
France:				
Paris	Jan. 1-31.....	3	2	
Germany:				
Prussia	Oct. 20-Nov. 29..	1,100	323	Oct. 5-15, 1919: Cases, 32. In addition 15 previously reported cases; Sept. 28-Dec. 6, 1919: Cases, 175 (exclusive of Prussia). Dec. 7, 1919-Jan. 17, 1920: Cases, 217.
Great Britain:				
Glasgow	Feb. 29-Mar. 27....	5		
London	Feb. 22-28.....	4		



# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from Dec. 27, 1919, to Apr. 30, 1920—Continued.**

## **SMALLPOX—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Greece:				
Saloniki.....	Nov. 10-Dec. 28...	26	26	
Do.....	Dec. 9-Mar. 14....	51	43	In vicinity: Drama, cases, 2; Zagoritzani, 9 cases, 1 death; Serres, 1 case.
Hungary.....				Nov. 3-Dec. 7, 1919: Cases, 15.
India.....				Oct. 19-Dec. 27, 1919: Deaths, 3,421; Jan. 4-Feb. 14, 1920: Deaths, 6,890.
Bombay.....	Oct. 12-Dec. 20....	46	11	
Do.....	Dec. 28-Feb. 28....	153	51	
Calcutta.....	Oct. 26-Dec. 27....	186	260	
Do.....	Dec. 28-Feb. 28....	1,322	1,133	
Karachi.....	Dec. 21-27.....	6	2	
Do.....	Jan. 18-Mar. 6.....	34	24	
Madras.....	Nov. 2-Dec. 27....	31	13	
Do.....	Dec. 28-Mar. 13....	86	18	
Rangoon.....	Oct. 19-Dec. 27....	51	18	
Do.....	Dec. 28-Feb. 28....	111	34	
Indo-China:				
Saigon.....	Oct. 27-Nov. 23....	2		
Do.....	Jan. 19-25.....	2		
Italy:				
Genoa.....	Jan. 5-Mar. 7.....	26		Province: Nov. 17-Dec. 28, 1919: Cases, 15; deaths, 3. Jan. 12-18, 1920: Cases, 13.
Leghorn.....	Jan. 4-Mar. 15....	8		
Messina.....	Nov. 10-Dec. 28....	55	8	Province of Messina: Dec. 14-28, 1919: Cases, 68. Jan. 5-Mar. 14, 1920: Cases, 151; 2 deaths.
Do.....	Dec. 29-Mar. 14....	38	6	
Milan.....	Oct. 1-Dec. 31....	15	2	
Naples.....	Dec. 28-Feb. 15....	13	17	
Palermo.....	Dec. 27-Mar. 23....	5	4	
San Fratello.....	Dec. 1-28.....	49	5	
Do.....	Dec. 29-Mar. 7.....	29	1	
Trieste.....	Jan. 3-Mar. 27....	3	1	
Turin.....	Dec. 28-Feb. 15....	5		
Japan:				
Kobe.....	Dec. 15-21.....	1		
Do.....	Feb. 23-Mar. 21....	1		
Nagasaki.....	Feb. 2-8.....	1		
Taiwan.....	Nov. 1-31.....	36	7	Entire island.
Do.....	Jan. 1-Feb. 29....	364	116	Do.
Yokohama.....	Feb. 1-29.....	19		
Java:				
East Java.....				Sept. 28-Dec. 18, 1919: Cases, 31. Jan. 1-7, 1920: Cases, 1.
Residency—				
Surabaya.....	Oct. 25-Dec. 18....	26		
Do.....	Jan. 1-7.....	1		
West Java.....				Oct. 17-Dec. 25, 1919: Cases, 650; deaths, 151. Jan. 2-Feb. 19, 1920: Cases, 345; deaths, 61.
Batavia.....	Oct. 17-Dec. 12....	49	22	
Do.....	Jan. 2-Feb. 19....	14	6	
Luxemburg.....	Feb. 15-29.....	3		
Malta.....	Feb. 1-29.....	3		
Manchuria:				
Dairen.....	Feb. 3-Mar. 15....	3		
Mukden.....	Jan. 15-Feb. 28....			Present.
Mesopotamia:				
Bagdad.....	Jan. 10-30.....	5		
Mexico:				
Acapulco.....	Nov. 9-15.....	2		
Chihuahua.....	Dec. 21-27.....	3	3	
Do.....	Jan. 11-Mar. 20....		3	
Ciudad.....	Jan. 11-Feb. 7.....		2	
Guadalajara.....	Dec. 1-31.....	1		
Do.....	Jan. 1-31.....	1		
Mexico City.....	Nov. 16-Dec. 20....	11		
Do.....	Feb. 15-28.....	2		
Salina Cruz.....	Feb. 1-29.....	18		
San Luis Potosi.....	Dec. 14-20.....		1	
Do.....	Jan. 18-Apr. 4.....	4	7	
Tehuantepec.....	Dec. 25-31.....	6		
Do.....	Jan. 1-Feb. 27....	73		
Newfoundland:				
St. Johns.....	Dec. 20-26.....	3		Dec. 13-26, at outposts, 6 cases. Present at 8 other localities.
Do.....	Dec. 27-Mar. 5....	13		Outposts, Dec. 27, 1919-Mar. 12, 1920: Cases, 25. Present at other localities. Mar. 25: Present at outposts.

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from Dec. 27, 1919, to Apr. 30, 1920—Continued.**

## **SMALLPOX—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Panama:				
Colon.....	Dec. 15-21.....	1		
Portugal:				
Lisbon.....	Nov. 30-Dec. 27.....		55	
Do.....	Dec. 28-Mar. 28.....		111	
Oporto.....	Dec. 7-20.....	5	5	
Do.....	Dec. 28-Jan. 3.....	1	1	
Portuguese East Africa:				
Towns—				Present in interior, in 5 districts, Nov. 9-Dec. 20, 1919, with 56 reported cases. In interior, Dec. 28, 1919-Feb. 28, 1920: Present.
Chai-Chai.....	Feb. 1-7.....	1		
Chinde.....	Dec. 28-Jan. 25.....	21		
Inhambane.....	Dec. 7-27.....	7		
Do.....	Jan. 4-Feb. 28.....	11		
Lourenco Marquez.....	Nov. 23-Dec. 20.....	9		
Do.....	Feb. 15-28.....	2		
Mozambique.....	Dec. 7-27.....	4		
Quelimane.....	do.....	12		
Do.....	Jan. 4-Feb. 28.....	1		
Tete.....	Dec. 7-27.....			
Roumania:				
Bucharest.....	Jan. 1-31.....	1		
Siberia:				
Vladivostok.....	Dec. 19-31.....	17	3	
Spain:				
Barcelona.....	Nov. 6-Dec. 27.....		26	
Do.....	Dec. 8-Mar. 18.....		47	
Bahao.....	Nov. 1-Dec. 20.....		4	
Do.....	Feb. 10-20.....	1		
Cadix.....	Oct. 1-Nov. 30.....		6	
Madrid.....	Feb. 1-29.....		9	
Valencia.....	Nov. 10-Dec. 27.....	39	9	
Do.....	Dec. 28-Mar. 27.....	139	25	
Vigo.....	Nov. 18-Dec. 27.....	14		
Do.....	Dec. 28-Jan. 31.....	2	3	Jan. 11-17, 1920: Present in vicinity.
Sumatra:				
Medan.....	Oct. 1-31.....	8		
Tunis:				
Tunis.....	Dec. 23-29.....	1		
Do.....	Jan. 19-Mar. 14.....	6	5	
Turkey:				
Constantinople.....	Nov. 9-Dec. 14.....	27		
Do.....	Feb. 18-24.....	5	3	
Union of South Africa:				
Johannesburg.....	Oct. 1-Dec. 31.....	21		
Do.....	Jan. 1-31.....	5		
On vessel:				
S. S. Roggeveen.....		1		Vessel from Java; at Noumea, New Caledonia. Case left at Noumea. Vessel arrived at Sydney, Jan. 2, 1920.
S. S. Sarcosie.....	Dec. 23.....	1		At Ponta Delgada, Azores, from Rotterdam for New York.
S. S. Vestmorge.....	Jan. 15.....	1		Mild. At Kingston, Jamaica, from Philadelphia, via Norfolk.

## **TYPHUS FEVER.**

Algeria:				
Departments—				
Algiers.....	Dec. 11-31.....	2		Algiers (city), Jan. 1-31, 1920: Cases, 1; deaths, 1.
Do.....	Jan. 11-Mar. 20.....	5		
Constantine.....	Nov. 11-Dec. 31.....	2		
Do.....	Jan. 1-Feb. 20.....	22		
Oran.....	Nov. 21-Dec. 11.....	5		
Do.....	Jan. 21-Mar. 20.....	103		
Austria.....				Sept. 7, 1919-Jan. 3, 1920: cases, 59.
Vienna.....	Sept. 7-Jan. 3.....	38		
Belgium:				
Ghent.....	Jan. 25-31.....		2	
Bolivia:				
La Paz.....	June 29-Dec. 20.....	30	31	Dec. 29, 1918-June 28, 1919: Deaths, 52.
Do.....	Jan. 4-Mar. 13.....	20	9	

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from Dec. 27, 1919, to Apr. 30, 1920—Continued.**

## **TYPHUS FEVER—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
<b>Brazil:</b>				
Ceara.....	Jan. 4-10.....	1		
Porto Alegre.....	Feb. 1-7.....		1	
<b>Bulgaria:</b>				
Sofia.....	Dec. 21-31.....	2	1	
Do.....	Jan. 1-Mar. 20.....	17	1	
Varna.....	Feb. 2-8.....	110		To Feb. 21: Present.
Vratza.....	Jan. 25-31.....			Present. Also in vicinity.
<b>Canada:</b>				
Ontario Province.....				Dec. 1-31, 1919: One case.
<b>Chile:</b>				
Antofagasta.....	Nov. 17-Dec. 14.....	14		
Santiago.....				Jan. 12-Sept. 30, 1919: Cases, 5,133; deaths, 1,023. Outbreak in October, 1918.
Valparaiso.....	Nov. 9-Dec. 27.....	955	114	Dec. 1-13, 1919: Cases, 700; deaths, 18.
Do.....	Dec. 28-Mar. 13.....	235	100	
<b>China:</b>				
Antung.....	Nov. 3-Dec. 14.....	2		
Tientsin.....	Feb. 1-7.....	1		
<b>Czecho-Slovakia:</b>				
Prague.....	Dec. 21-27.....	1		
Do.....	Jan. 25-Feb. 7.....	2	1	
<b>Egypt:</b>				
Alexandria.....	Nov. 12-Dec. 16.....	6	1	
Do.....	Jan. 1-Mar. 11.....	78	23	
Cairo.....	Oct. 1-Dec. 23.....	113	46	
Do.....	Jan. 1-Feb. 4.....	34	16	
Port Said.....	Oct. 1-Dec. 16.....	3	1	
Do.....	Jan. 15-28.....	1	1	
<b>Estonia:</b>				
Narva.....	Feb. 16.....	2,500		Feb. 16, 1920: Cases, 7,500 to 8,000. Estimated mortality, 40 per cent.
Reval.....	do.....	2,500		
<b>Finland:</b>				
Province—				
Viborg.....	July 16-31.....	2		
<b>Germany:</b>				
				Oct. 5-Dec. 6, 1919: Cases, 10—civil population, 3; military, 4; repatriated soldiers, 3. Dec. 7, 1919-Jan. 17, 1920: Cases, 73, of which 28 in civil population, including 10 Polish workmen; 45 among German troops.
<b>Great Britain:</b>				
Belfast.....	Dec. 28-Jan. 3.....	1	1	
Glasgow.....	Nov. 30-Dec. 6.....	2		
<b>Greece:</b>				
Cavalla.....	Nov. 17-Dec. 28.....	4		
Drama.....	Nov. 24-Dec. 28.....	6		
Saloniki.....	Oct. 6-Dec. 21.....		43	
Do.....	Dec. 28-Mar. 7.....	101	9	In vicinity, at Cavalla, 1 case; Prani, 1; Vertekep, 6 cases; Zagoritzani, 3.
Thassos Island.....	Dec. 22-28.....	1		
Zihna.....	do.....	1		Aug. 25-Dec. 7, 1919: Cases, 36.
<b>Hungary:</b>				
Budapest.....	Nov. 3-Dec. 7.....	18		
<b>Italy:</b>				
Brindisi.....	Dec. 22-28.....	1		
Naples.....	Jan. 19-25.....	2	1	
Trieste.....	Dec. 14-27.....	3		
Do.....	Dec. 28-Feb. 3.....	5	2	
Venice.....	Nov. 17-Dec. 21.....	6	1	
<b>Japan:</b>				
Nagasaki.....	Dec. 1-28.....	4	2	
Do.....	Jan. 12-Mar. 21.....	5	1	
<b>Mexico:</b>				
Chihuahua.....	Dec. 21-27.....	2		
Do.....	Jan. 11-17.....		1	
Mexico City.....	Nov. 16-Dec. 27.....	129		
Do.....	Dec. 28-Feb. 28.....	188		
Saltillo.....	Nov. 1-30.....	2	1	
Do.....	Mar. 28-Apr. 3.....	1		
San Luis Potosi.....	Dec. 14-27.....			Present.
Do.....	Dec. 28-Mar. 28.....			Present. Mar. 29-Apr. 4, 1920: 1 death.
<b>Paraguay:</b>				
Asuncion.....	Nov. 30-Dec. 6.....	1		

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from Dec. 27, 1919, to Apr. 30, 1920—Continued.**

## **TYPHUS FEVER—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Peru:				
Callao.....	Nov. 1-30.....	.....	1	
Cerro de Pasco.....	Dec. 7-13.....	1	.....	
Poland:				
Galicja (Province).....	Nov. 1-30.....	5,716	616	Nov. 1-30, 1919: Cases, 11,264; deaths, 942. Including Province of Posen.
Warsaw.....	do.....	107	19	Oct. 1-31, 1919: Cases, 129; deaths, 12.
Portugal:				
Lisbon.....	Dec. 6-12.....	.....	2	
Oporto.....	Dec. 21-27.....	1	.....	
Roumania:				
Braila.....	Jan. 1-31.....	18	3	
Bucharest.....	do.....	59	7	
Constantza.....	do.....	59	7	
Galatz.....	do.....	10	3	
Russia.....				Mar. 4, 1920: Reported present in nearly all Black Sea ports.
Siberia:				
Vladivostok.....	Dec. 25-31.....	23	13	
Spain:				
Barcelona.....	Nov. 20-26.....	7	.....	
Bilbao.....	Dec. 22-31.....	.....	1	
Corunna.....	Nov. 24-Dec. 7.....	2	.....	
Madrid.....	Jan. 1-31.....	.....	1	
Tunis:				
Tunis.....	Dec. 14-20.....	1	.....	
Do.....	Dec. 29-Mar. 27.....	12	2	
Turkey:				
Constantinople.....	Nov. 14-Dec. 27.....	49	.....	
Do.....	Feb. 8-28.....	54	3	Increase reported due to influx of Russian refugees.
Princes Islands.....	do.....	50	.....	About 15 miles distant from Constantinople. In Sea of Marmora.
Union of South Africa:				
Cape Province.....				Mar. 9, 1920: Present in 20 districts.
Districts—				Present.
Mount Frere.....	Feb. 22-28.....	.....	.....	Do.
Transkei.....	do.....	.....	.....	Mar. 9, 1920: Present in 5 districts.
Natal.....				Present.
Districts—				Do.
Camperdown.....	Feb. 22-28.....	.....	.....	Do.
Ixopo.....	do.....	.....	.....	Do.
Newcastle.....	do.....	.....	.....	Do.
Vryheid.....	do.....	.....	.....	Do.
Transvaal—				
Johannesburg.....	do.....	.....	.....	Present. Mining district.

## **YELLOW FEVER.**

Brazil:				
Bahia.....	Oct. 26-Nov. 8.....	1	2	
Do.....	Feb. 29-Mar. 6.....	1	1	
Mexico:				
Campeche.....	Dec. 20.....	1	.....	
Merida.....	Dec. 7-27.....	4	2	
Do.....	Dec. 28-Mar. 20.....	2	.....	The cases were sent from Opi-chen, vicinity of Muna. One death in case from Muna. Total to Dec. 27: Cases, 47; deaths, 21.